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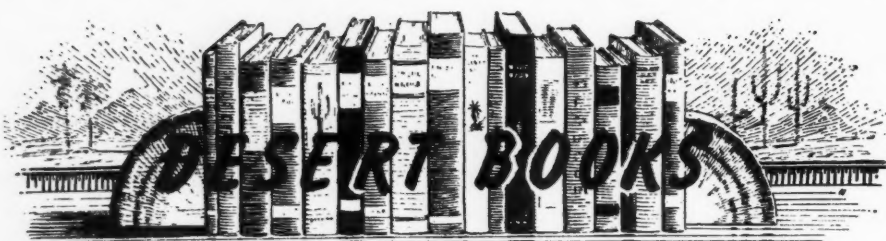
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FEBRUARY 1944

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POETIC STUDY LIFTS MASK FROM DESERT

In Laura Adams Armer's *SOUTHWEST* there is a charm and spirit which are rare in today's books. The author has penetrated the extraneous, obvious material at hand and gone deep into the inscrutable Southwest with its "60 million yesterdays."

At first one might suspect its development into a travel book, although Mrs. Armer states that it is neither that nor a historic treatise. In a way it is both. There is movement throughout, but the movement is in the form of subtle migrations of an understanding spirit. The mask of hardness and drabness often concealing the real desert is lifted from its gaunt face.

The author has lived among the Indians, has tasted of their sorrows without herself becoming sorrowful. She has seen the magic of the Navajo healings, the power of the rain dances, never doubting the cosmic forces that have performed miracles from the beginning of time.

Two things particularly remain with the reader: the exquisite beauty of diction, the charming choice of words to describe even the commonplace; and the author's understanding love and reverence for the arid land—its people and its glory. Her chief fear is that "greedy hands will crush its ephemeral beauty," causing the loss of a great heritage.

The illustrations from paintings by the author display the same rare delicate impression which permeates the text.

Longmans, Green and Co., New York, 1935. 224 pp. \$3.00.

—TRACY M. SCOTT

LOCKWOOD ADDS TO HIS ARIZONA PORTRAIT GALLERY

To supplement his publication entitled *ARIZONA CHARACTERS*, now out of print, Dr. Frank Lockwood has prepared a new volume entitled *MORE ARIZONA CHARACTERS*. This little volume is in the form of one of the quarterly bulletins issued by the University of Arizona.

In it Dr. Lockwood reviews the highlights in the lives of four Arizona pioneers—Horace C. Grosvenor, mine superintendent; Al Sieber, early day army scout in northern Arizona; Captain John Hance, guide at Grand Canyon for many years and John L. Hubbell, Navajo Indian trader. 79 pp. 40c.

—E. H.

CONQUEST OF COLORADO RIVER BY COLLEGE MEN

Going *DOWN THE WORLD'S MOST DANGEROUS RIVER* long had been Clyde Eddy's secret ambition. In 1927, with a group of 12 young college men he fulfilled his dream by daring the Colorado river's 300 bad rapids from Greenriver, Utah, to Needles, California.

Having but 50 successful predecessors, and as many more who failed, Eddy and his crew in three flatbottomed row-boats set a remarkable record, coming through the ordeal with loss of one boat being the only mishap.

His achievement was all the more remarkable when it is considered his men had been selected by mail from applicants throughout the United States who had little advance information and no experience.

The expedition was in no sense a scientific one. It was high adventure. The men faced death a dozen times a day. There were back-breaking days when the boats had to be carried around the most dangerous rapids. There were days of discouragement and moments of near-mutiny.

Eddy's style, while not outstanding, holds the reader's close attention because of its sheer excitement. Its simplicity and adventure make it an enjoyable reading experience for youth; its intense excitement will catch the interest of the fiction reader, and it is sufficiently informative and accurate to suit the more critical reader.

Frederick A. Stokes Co., New York, 1929. Photos, endmaps, 293 pp. \$2.50.

—RAND HENDERSON

CONDENSED GROWING GUIDE FOR CACTI AND SUCCULENTS

Scott E. Haselton, from whose Abbey Garden Press in Pasadena have come such practical guides for hobbyists as *CACTI FOR THE AMATEUR* and *SUCCULENTS FOR THE AMATEUR*, has just written and published a profusely illustrated 68-page booklet *CACTI AND SUCCULENTS, And How to Grow Them*, for only a quarter. It has the same practical approach as the other books, but in more condensed form.

Includes Cultural Directions, Propagation, Pest Control, Collecting, and lists of common and botanical names of popular cacti and succulents. Cover photos in color. Illustrated with photos and excellent line drawings.

GOLDEN MIRAGES



The thrill of man's struggle to find legendary lost gold mines of the West pulse through Philip A. Bailey's "Golden Mirages." It is a gold mine of Americana, containing the history, legends and personalities of old California and the Southwest.

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THE Desert MAGAZINE
636 State St. El Centro, California

THE DESERT MAGAZINE

DESERT Close-Ups

• Winsome little Navajo girl on this month's cover is a cousin of Cathley and Lily, dairymaid sisters of "Nomads of Inside-the-Rocks" on page 17 of this issue. John Blackford, in trying for this shot, lifted her up into the hole-in-the-rock, which is about 150 yards south of the goat corral seen on page 21. Immediately a high wind sprang up, "whipping her hair in her eyes, driving sand into mine, as well as into the camera." She apparently has no English first name, and the family made it plain they did not want to disclose her native given name.

• We think Jerry Laudermilk was indulging in some professorial humor when he said we all would go raving up the street, tearing our hair, when we read his latest "excursion into the past." At the very least, he promises all Desert readers they never will be the same after reading about the Rock from Hades. This is another treat soon to appear especially for rockhounds, but everyone will be spellbound by the terrifyingly realistic recreation of the era when Pisgah Crater in the Mojave desert came into being.

• Black Canyon in northwestern Mojave desert rarely is visited. In prehistoric times it was the home of Indians who showed considerable artistic skill. Only knowledge of them seems to have been derived from an examination of etchings they left on canyon walls. These tell of their daily lives, their clothing and occupations. Vernon Smith of Laguna Beach, California, has described, photographed and made tracings of many of the petroglyphs for Desert readers. Over a period of years he has made an intensive study of petroglyphs throughout the Southwest. Just now he is serving as expert consultant with U. S. signal corps on training films. His mapped story will be published soon.

• Desert readers are going to meet the Spiderweb Lady in an early issue. Nan Songer is directing the efforts of Black Widows and other spiders in war work. She has a large "crew" of them spinning silk threads. Not content with the fineness of them, she proceeds to split them, sometimes into strands as fine as five one hundred thousandth of an inch. Government uses spider silk for microscopes; instruments for taking blood count; survey, astronomical and navigation instruments; range finders; bomb sights; gun sights and in any telescopic instrument requiring precision.

CREED OF THE DESERT

By JUNE LEMERT PAXTON

Yucca Valley, California

Man made the cities—perhaps they are needed;

For each, there's a place that is best.
But there was a cry that long went unheeded,

So God kept the desert for quiet and rest.



Volume 7

FEBRUARY, 1944

Number 4

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Remains of the Wenner home on Fremont Island. Still visible is remnant of top window where Mrs. Kate Wenner used to signal. Clyde Anderson photo.

They Built an Island Home in the Desert

By CHARLES KELLY

"HOW'D you like to take a boat ride on Great Salt Lake tomorrow?" a voice asked over the phone one day as I sat in a stuffy office in Salt Lake City.

"Fine!" I replied, glad of an opportunity to forget business a few hours. "Who's speaking?"

"Johnny Jones," the voice replied. "Meet me at the Saltair pier at nine o'clock."

I already had made one delightful voyage on the lake with Thomas C. Adams, in a specially constructed flat bottomed boat, an experience which whetted my desire to see more of that mysterious body of water. John E. Jones, a prominent business man, had just completed another boat and this was to be its maiden voyage. I knew we were in for a wonderful time.

"Where are you bound for?" I asked Johnny when I met him at the pier next morning.

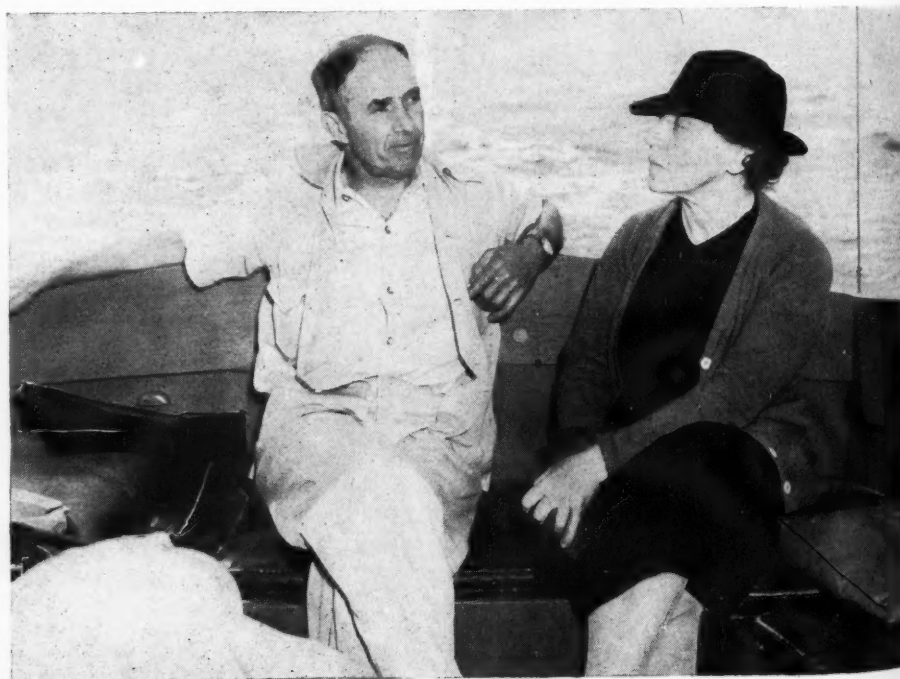
"Nowhere in particular," he replied. "Where would you like to go?"

"If we have time," I said, "I'd like to visit Fremont island. An old prospector told me he found a cross cut in the rock on top of the island in early days. I'd like to see if it's still there."

"Sounds interesting," Johnny agreed. "Maybe we could find an old date or something. Cast off!"

So that's how I happened to visit Fremont island in Great Salt Lake. We found the cross cut in the rock and later identified

John E. Jones and Miss Blanche Wenner enroute to Fremont Island, 1943. Miss Wenner's first voyage, in 1886, in an open sail boat, required three days and nights. Photo by Clyde Anderson, Salt Lake City.



This is the story of a family who lived on desert island—not in the South Seas, but in Great Salt Lake, Utah. Although their island home was but 20 miles from the mainland, they were at times as effectively marooned as if they had been surrounded by the ocean. During high storm winds, the great salt waves made a crossing too dangerous to attempt. A sail boat brought their mail and food supply once a month. Their primitive existence on the little crescent-shaped island was in direct contrast to the gay social life they had enjoyed on the mainland, but as they adapted themselves to the new environment they began to realize that much of their previous life had been wasted on the trivial details of the outside world.

Kit Carson as the man who cut it, as told in a previous article in *Desert Magazine* (February, 1942). But another strange story came to light as a result of that trip.

While exploring the summit of the island that day Johnny Jones noticed a small bay in the shoreline and some distance back from the beach a dark object which looked like the ruins of an old house. Borrowing my glasses he studied it for a few minutes.

"It is an old house," he said as he handed me the glasses. "A two-story rock house. Who do you suppose ever lived on this desolate island?"



John E. Jones and friends on the boat enroute to Fremont Island, 1943. Photo by Clyde Anderson, Salt Lake City.

"Don't you hear a faint sound? Can you dig up the story?"

That was the story of John E. Jones and Miss Blanche Wenner. Remembered as the first woman to anchor a boat on the lake, she was a flowing river of activity. Closed in on the island with the colored sand, she was a lone woman on a voyage home. The island was a woman's world—a story of a woman's life.

It was a story of a woman's life. From the lake city as a lawyer, she was experienced. Everyone knew her. Wenner's practice was a couple of parties of the educated. They were children about per-

But after living, known, Consulting must take get away where he and fresh



John E. Jones (left) and group of friends who accompanied Miss Wenner to her old island home, seen in background. Clyde Anderson photo.

matter of life or death. Without hesitation the couple gave up their business and social activities and began to look for some place on the desert where the husband might mend his broken health.

Eventually they decided on Fremont island in Great Salt Lake as the location of their new home, where it was believed Mr. Wenner would be benefited by desert sunshine, salt breezes and complete isolation from the affairs of the world. So they sold their beautiful home in the city and bought the entire island.

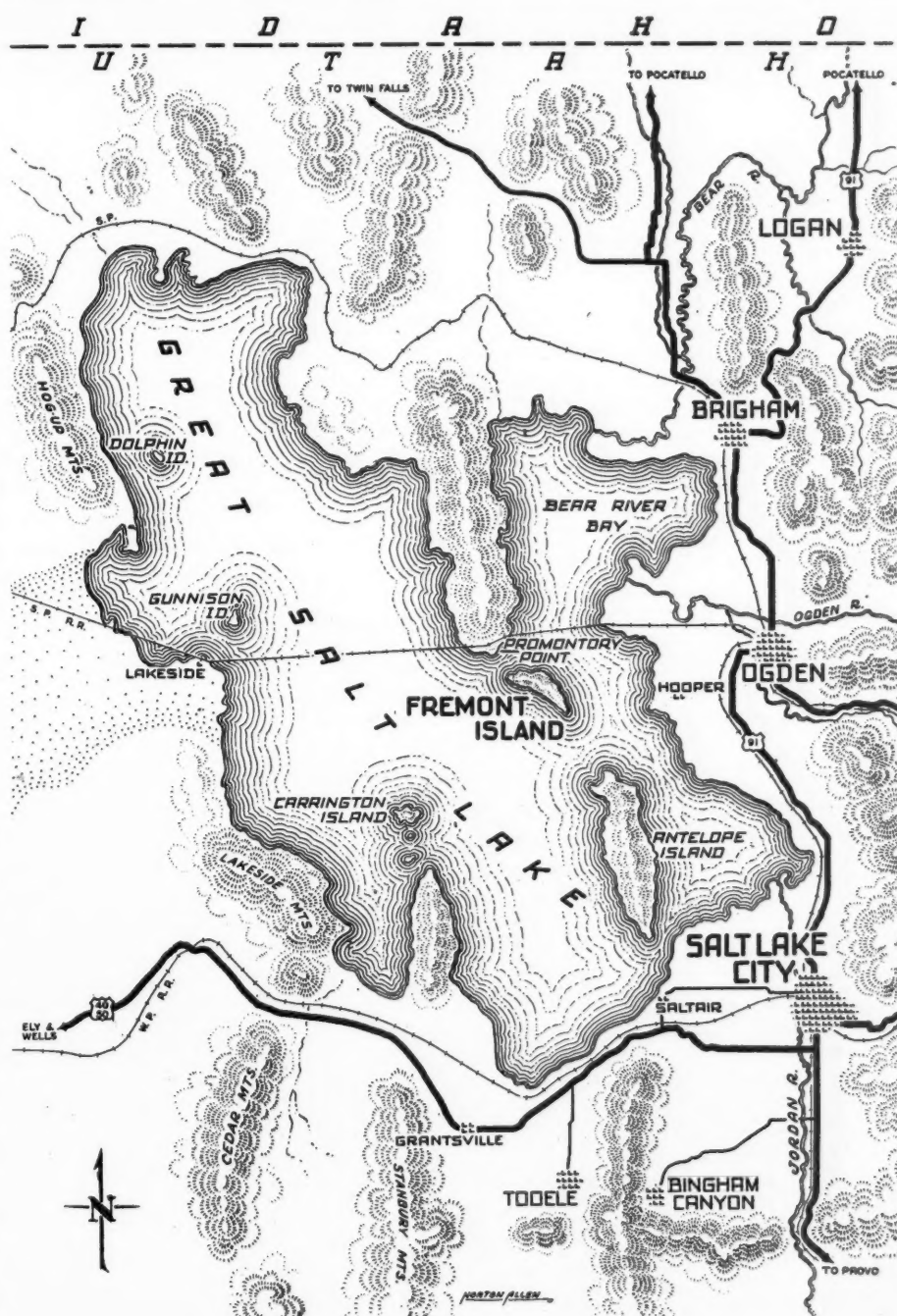
Fremont, one of several large islands, lies a few miles off the point of a promontory in the northeast part of Great Salt Lake. It has an area of several square miles and a shoreline of 17 miles. From a low shoreline toward the south and east it rises

"Don't know," I replied, "but I've heard a family once lived here. Maybe we can dig up the story some day."

That was several years ago. Subsequently Jones made another trip to the island. Remembering the ruined stone house he anchored in the little bay and climbed the slope to visit it. He found near the ruin a flowing well, evidences of sheep ranching activities, and nearby a small plot enclosed in an iron fence. Inside was a grave with the initials "U. J. W." outlined with colored stones. On returning from this voyage he began making inquiries about the lone grave and the ranch on Fremont island and eventually was fortunate enough to get the whole story from the woman who helped build that stone house—a story written just before her death a year ago at the age of 85.

It was about 1880 when a young man from the east, U. J. Wenner, came to Salt Lake City with his bride to begin a career as a lawyer. In those days Utah's capital was experiencing a big mining boom. Everyone was making money, and the city social life was gay and exciting. Mr. Wenner soon established a profitable legal practice and built a beautiful home. The couple participated in all the social activities of the city, where young Mrs. Wenner, educated in Europe, was a favorite. Speculating in mining stocks, as everyone did, they accumulated a small fortune. Two children were born and life seemed just about perfect.

But after five years of gay and strenuous living, "Judge" Wenner, as he was known, began to feel tired and worn out. Consulting his physician he was told he must take a complete rest from business, get away from the city and live in the open where he would have plenty of sunshine and fresh air. The doctor said it was a





On the summit of Fremont Island Charles Kelly discovered the cross chiseled by Kit Carson in 1843.

to a height of nearly a thousand feet above the lake. Its vegetation in those days consisted of sagebrush, greasewood, and a good covering of native grasses, but there were no trees of any kind.

John C. Fremont, the explorer, first visited the island in 1843, with a few of his men including Kit Carson, in a rubber boat which nearly collapsed. He called it Disappointment island because he failed to find any of the strange things trapper legend has credited to that lonely place. No one ever had thought of living there. It was a barren desert island without trees or animal life, with only a few small springs of brackish water.

On the shores of this desolate island Judge Wenner landed with his family, a hired girl and one helper, on a summer day in 1886, after a harrowing three day voy-

age in an open sailboat. With two tents, bedding, and a small supply of food, they were starting life again, almost from scratch. Within a few days a shelter was made of driftwood. Later a small cabin was built with lumber brought from the mainland.

At first it had been planned to remain on the island during the summer and return to the city before winter. But Mr. Wenner's health improved so rapidly that the family decided to remain. During that first winter they built a comfortable two-story house of native stone, the walls of which had attracted Johnny Jones' attention on his first trip to the island.

Mrs. Wenner, in her story of their experience, remembered that she had forgotten to bring a mirror with her to the island, and it was six months before she got one.

Because of this, she believed, her hired girl left at the first opportunity. From that time on she did all her own work.

Lack of water on the island made it impossible to raise a garden, so all food supplies had to be brought from the mainland by boat. After a few months they bought a boat and Judge Wenner or his helper made monthly trips for supplies and mail. Each trip was an adventure, as the heavy salt water often kicked up dangerous waves. The nearest place where supplies could be bought was a small settlement called Hooper, an all-day trip. The nearest city was Ogden, Utah, about 100 miles to the northeast.

After their stone house was finished the Wenners brought out some of their furniture and all their library. Life on the lonely island was a sudden and drastic change from what they previously had known, but they soon learned to enjoy every minute of it. They went on little exploring expeditions to various parts of their island kingdom, always finding something of interest, including evidence of previous habitation by Indians.

For pets, the little boy and girl, four and two years old, had a pelican, horned toads, lizards, and in time a burro, two Shetland ponies, goats and a shepherd dog. Their education was not neglected. Their mother taught them from books in her library. She even conducted her own little Sunday school.

One time their baby son disappeared.

Rock cairn on Antelope Island containing metal tube left by Capt. Howard Stansbury during Great Salt Lake survey of 1850. Shaped like a spear-head over 15 miles long, it lies south of Fremont. Osborne Russell, a trapper, was first to report buffalo and antelope on the island, in 1841. An old Indian chief told him buffalo used to pass from mainland to island without swimming.



They searched in every direction, on foot and horseback. The children always had been told that, if lost, they were to follow the shoreline home. After half a day's search the child was seen far off, keeping very close to every little curve of the shore. His father soon had him in his arms. "He was a sorry sight with his tear-stained, dirty face," wrote his mother in her journal. "And he told us, 'Sometimes I laid down on the shoreline and said, Now I lay me down to sleep. I pray the Lord my soul to keep. And then I got up and went on.'"

"There was so much to do," continued Mrs. Wenner, "so much to think about in this new life away from the world that I began to feel much of my life would have been wasted in the outside world, imitating fashions, wondering about our neighbors' affairs, worrying about my children's companions. We learned to know ourselves, enjoy ourselves, our children and our books."

Some sheep were brought to the island the next spring, the nucleus of what in time became a large herd and a source of revenue. The island was an ideal sheep range abounding in fine pasture, while no herders were needed to tend the flocks.

During the next five years Mrs. Wenner left the island only once—just before the birth of her third child. Dressed in her old finery she remembered with amusement the stares of women as she passed down the streets of Ogden in an expensive dress three years out of date, followed by her children with their pet pelican.

To change to an outdoor life had seemed to benefit Judge Wenner, who had



Judge Wenner's boat Argo. Copied from an old photograph taken when sails were tattered and salt-encrusted after a hard voyage to the mainland for supplies. (Collection of George Knauss, Ogden.)

hopes of a complete recovery. But suddenly one stormy night he died.

Their helper had taken their boat to the mainland the day before for supplies and a high wind had come up making it impossible for him to return. For two days and nights the distracted woman waited for help, building signal fires on the summit of the island. Her signals were seen, but the waves were too high to risk a crossing.

At sundown of the third day the wind subsided and the helper returned with their boat. That night he built a rough coffin which Mrs. Wenner lined with a treasured shawl. Next morning they buried Judge Wenner in a plot near the island home he loved so well. At the head of the grave the children formed the letters "U. J. W." from colored beach pebbles, and below spelled out the word "LOVE." Later an iron fence was put around the grave. When Johnny Jones saw it 50 years later, the letters still were visible except the first two in the word "Love."

After her husband's death Mrs. Wenner left the island and later remarried. But she retained ownership of her little island kingdom as long as she lived. She died at the age of 85, soon after she sent Mr. Jones the memoirs of her island experience.

On June 13, 1943, Miss Blanche Wenner, of Seattle, Washington, only surviving child, came to Salt Lake City bearing the ashes of her mother. John E. Jones and a party of friends took her back to Fremont island, her childhood home, where she buried the ashes of her mother beside her father's grave, fulfilling Mrs. Wenner's last request.

When the war is over Miss Wenner hopes to return to Fremont island, rebuild the old house, restore the ranch and make it her summer home. Certainly there could be no more ideal spot in which to forget the outside world.

Far to southwest of Fremont is circular isle of Carrington, about two miles across. This is triangulation point erected in 1850 by Capt. Stansbury, who named island for Albert Carrington who assisted with 1850 survey.



It isn't a source of turpentine and it is not a broom—yet this little desert mountain shrub smells like turpentine and its switch-like branches make it look like a broom. Strangely enough, it belongs to the fragrant-flowered citrus family. But the oil yielded by its blister-like glands is a powerful irritant and has been used by Indian medicine men to induce strange visions. Mary Beal describes the two species found in the Southwest.

Shrub That Smells Like Turpentine--But Isn't

By MARY BEAL
Photo by the author

IT IS NOT one of the gay assembly that marks the spring flower parade with arresting color, but this odd little shrub, leafless for most of the year, attracts notice by its interesting peculiarities, most compelling of which is the odor. It may stretch the imagination of a novice to associate turpentine odor with the fragrance of orange-blossoms. Actually this rank-smelling little shrub is a cousin of the citrus fruits, both belonging to the Rue family. It is also a relative of the Spice Bush, *Cneoridium dumosum*, best known in San Diego county, California.

The common name of Turpentine Broom is rather misleading, for it is quite unrelated to our source of commercial turpentine, which are species of the Pine family. But it produces a good imitation of turpentine odor although it is not as persistent as that of its namesake. Freshly-bruised stems give off a strong offensive odor at first but it dries to a sweet delicate aroma similar to that of lemons, or as some describe it, a cocoanut-like scent.

Its genus name comes from the Greek *thamnos*, bush, and *osme*, odor, and its specific name *montana* is from the Latin for mountain, or as we would say, "odorous bush of the mountains." It was reported by Fremont on his Rocky Mountain expedition of 1845.

Such a highly aromatic plant naturally would be considered to have medicinal qualities. The blister-like glands yield an oil which is a powerful irritant. This was found by the Indians to be valuable in the healing of wounds, as well as a remedy for certain diseases.

Brewed into a tea its tonic effect could be increased to induce visions which the medicine men could utilize to good advantage in some cases. Jaeger quotes an old Indian woman who described the effect: "They soon went crazy like coyotes, but when they were that way they could find things long lost."

It is a low yellow-green shrub of arid mountain slopes, not more than a foot or two high and somewhat spiny. The many tough, switch-like branches are smooth and hairless, set with tiny blister-like glands, partly embedded in the tissues. Leafage is scanty and soon deciduous. The few little leaves are oblanceolate, half inch or less long, and only sparingly glandular.

The flowers are quite an oddity, the corollas a dark purple-blue, almost black, which fades as it ages, urn-shaped or oblong-cylindric, half an inch long or less, on short scaly peduncles. The 4 erect convex petals almost close but are rolled



Turpentine Broom. It smells like turpentine but it isn't.

out at the very tip, leaving only a tiny opening, through which the style peeks out. The fruit is a leathery capsule not quite a half inch broad, deeply parted into 2 globose lobes, the embedded glands giving it the texture and appearance of orange or lemon skins. The seeds are smooth or somewhat wrinkled, about 1/5 of an inch long.

The flowering season is variable. You may find plants in bloom from January to April or even as late as May in some years. They flourish, often in local abundance, on dry stony hills and mesas in mountain areas from 2000 to 5000 feet elevation, in the Colorado and Mojave deserts, the Death Valley region, Nevada, southern Utah, Arizona, and New Mexico.

In Arizona Turpentine Broom is found in Grand Canyon area of Coconino county, in Yavapai, Mohave, Pinal, Maricopa and Yuma counties, nearly always at 4500 feet or lower, on desert mesas and slopes. It reaches across the international line into Mexico in the states of Sonora and Baja California.

Thamnosma texana

This is an herbaceous, leafy perennial, very different in aspect from Turpentine Broom. Woody at base and only slightly bushy, it has no spines and the green of the herbage is whitened with a bloom. The numerous small leaves are linear to thread-like, and persistent. The bell-shaped corolla is very small, 1/8 to 1/5 inch long, the petals yellowish or brownish-purple. The capsule is conspicuously 2-lobed as in the preceding species but the tiny seeds aren't more than half the size, and tuberculate. It too is found on dry rocky slopes and mesas, above 2000 feet, ranging from southern Arizona and northern Mexico east and north to west Texas and Colorado. In Arizona it is found in Coconino, Pinal, Cochise, Santa Cruz and Pima counties from 2000 to 4000 feet elevation. It usually blooms from March to June. The Texas turpentine bush was described in a U. S. Mexico boundary report in 1859.

This is the story of a lovely Indian artist. She is painter, potter and singer. She has traveled far from her sun-drowsy pueblo home in New Mexico to sell war bonds. She has donated "tons" of her pottery souvenirs to bond buyers. She has been asked thousands of times if Indians still scalp people, what she eats and if she knows the Indians Longfellow wrote about in "Hiawatha." She has sung for them and danced for them and "talked Indian" for them . . . And now she is going home to Tesuque. For Blue Water has not forgotten the wise old ways of her people. Her baby son will learn the first steps of the Eagle Dance. She will go back to painting murals and making pottery — and wait for her husband who is "Somewhere in the Pacific."

Blue Water --Artist of Tesuque

By MARGARET STONE

IN THE tiny Indian pueblo of Tesuque, New Mexico, the warm spring sun drove the Indian women into the shade of the huge cottonwoods where they paint their pottery. As they worked they talked of Rufina, the best potter of them all, and wondered where she was and when she'd be home again.

In Chicago, Rufina or *Po-Sha-Wa*, Blue Water Girl of the Tesuques, sat with me by a wide window overlooking the grey cold waters of Lake Michigan. She wore the ageless tribal dress of her native pueblo. Over a long sleeved white blouse was belted the hand-woven woolen black robe that Tesuque women have worn since their village was first visited by Coronado's army centuries ago. The belt was red and white of finely spun yarn woven into a girdle by her grandfather. He had made her moccasins, too, the soft white covering over her small feet, and had kill-



Her white friends call her Rufina. Genevieve L. Peck Studio, Chicago.

ed two deer, tanned and bleached their hides to make the long wrap leggings which reached above her knees. Over one shoulder was draped a silk shawl of brilliant colors and she was weighted down with silver and turquoise and inlay work for which the silversmiths of the Southwest are famous.

Tucked in the soft folds of her shining black hair was a creamy gardenia, and I suddenly realized that during the two weeks past while she graciously greeted thousands of Chicago art lovers, I had never seen her without a gardenia. A desert girl and a gardenia!

She turned from the restless water and said: "I'm homesick." Tears filled her eyes and for a moment her brilliant smile

was shadowed. "But I am going home next week. My work here is done. I have shown your race that we Indians are doing our part in this terrible war. Seems like I've talked to thousands of people about buying Victory bonds, and about giving time and money and blood to the Red Cross. I've made and donated tons of little rain gods and ash trays and small bowls with my name on them, one to each buyer of a bond. Thousands of school children have asked me if Indians still scalp people and what I eat and if I knew the people Longfellow talks about in Hiawatha. I've sung for them and danced for them and talked 'Indian' for them. Now I'm going home to my own little Benny. I wish you'd come with me, away from this cold crowd-

ed city. Your Indian friends all miss you and they wonder why you stay away so long from the desert and from them." I wondered too, there in the great salon of Marshall Field's.

Tesuque, Place of the Red Willows, is one of the Rio Grande pueblos. Nine miles north of fabled Santa Fe, it was ancient when that proud city was settled. Thousands of curious tourists from Santa Fe visit Tesuque where the Indians greet them with courtesy, sell them inferior pottery in the shape of the small grotesque rain gods, or ash trays, fashioned for just such souvenir seeking travelers. When the visitors depart the Indians brush the white taint from their hands and turn again to their own tribal affairs. White civilization passes harmlessly over their heads. Only about 160 Tesuques live in their ancient village—that is, when they are all at home. Now that most of the young men are fighting with the armed forces 125 will include the old men, women and children.

They raise a little wheat and beans, have a few cattle grazing on their pitifully small pastures, produce enough chili peppers to give indigestion to the entire Southwest, and eke out their frugal existence by the

sale of pottery and gaily painted toy drums.

But this is the story of Blue Water, girl artist and potter of that little canyon pueblo of Tesuque.

"One summer morning when I pushed my blanket aside and sat up on the sheep skins placed on the raised ledge in our home, I saw that the room was full of people and that my mother was not there. During the night she had gone to our Place of Souls. From then on I remember only my grandmother in our home and her goodness to me. She was one of the best potters in our tribe, and the lovely bowls she made were not placed among the brightly painted ashtrays, rain gods and small jars in the plaza, for the souvenir hunting tourists to grab. They were tucked away in a storage room and brought out only for discriminating buyers.

"Each piece of pottery she made was shaped with loving care, and the paints, mixed with oil from melon seeds, were applied in the old designs which mean so much to our people. Perhaps she painted the outlines of one of the stately mountains pushing into the blue sky behind our home. Or it might be a cloud dripping

with rain, or the sun's rays on a blue background, but as she shaped and painted she talked to me, a small motherless girl nestled against her knee, of what the painting meant and how good the Great Spirit had been to the Tesuque people to let them live under New Mexico skies in the colorful desert near snowcrowned mountains.

"It was from her I absorbed my love of color and design, and I never make the simplest bowl without seeing her sensitive hands caressing the pliant clay. I never draw my yucca fiber brush across the smooth surface without remembering her voice as she talked to me about the sacred colors, and what they mean to the Tesuque." Blue Water, with the fragrant gardenia tucked behind her ear forgot that we were in one of the biggest dreariest cities in the world, and she smiled to herself as she dwelt on her childhood memories.

"Grandmother was good to me and to my older sister. She made the good cornbread we liked, she sang songs to us as she worked, and whenever she sold one of her precious bowls she bought some little treat for us. Sister did not care for the Indian ways. She slipped away to talk to the white visitors and just as soon as she was old

Watercolor painted by Rufina, depicting San Juan Day procession. San Juan is being being carried to the Sacred Bower.



enough she begged so hard to go to the big school in Santa Fe that Grandmother let her go. I remained with my grandmother. Soon I was helping her dig clay for the making of pottery. This was found about a mile from our home, down in a canyon under a layer of sand blown there by the desert winds. When I can first remember we spread our shawls on the ground and piled the lumps of damp clay on them as we dug it.

"Then we carried it back to the village and spread it on the flat rooftop of our house where it dried quickly in the hot sun. It then was pounded as fine as possible with a stone hammer and soaked in water we carried from the one small spring which then furnished water for all the people living in Tesuque. You may be sure we never wasted any water! When the clay was soft enough my grandmother and I would plunge our hands down into it and sort out all hard particles and bits of rock. Then it was allowed to sink to the



Old Tesuque pottery. Wedding Jar in center is used in tribal marriage ceremony, the bride drinking from one mouth of the vessel and the bridegroom from the other. Rufina says, "I think it teaches that husband and wife should share the sweet and bitter waters of life together."

Tesuque grandmother and child. U. S. Indian Service photo.



bottom in a smooth soft mass. The water was carefully drained off and the clay laid on flat rocks to reach a dryness where it could be kneaded like bread. I have modeled with the finest commercial clay since then, but there is something in the feel of our own pottery clay that inspires me far beyond anything that can be bought.

"Grandmother loved to make the wedding jars, those two mouthed vessels with a gracefully twisted handle by which to lift them. But it was many years before she thought I knew enough to shape or paint one of them. Even now when I begin to make a wedding jar I seem to feel her sharp old eyes on me, and I am careful that the vessel is not marred. This is the jar used in our tribal marriage ceremony, the bride drinking from one mouth of the vessel and the bridegroom from the other. I think it teaches that husband and wife should share the sweet and bitter waters of life together. Our pottery is the soft brown shade of the desert sand, and my grandmother would paint designs in blue, deep orange of the sunset and the red of our evening sky. So beautiful were the colors that I used to ache inside to try my hand at painting with them. But it was many years before I was allowed to paint a wedding jar. One must be a good potter before such work is permitted.

"As I grew older I went to the school for Tesuque children and the white teacher thought my name of *Po-Sah-Wa* was a heathenish name. So she called me 'Rufina,' the name I use with white friends. It didn't please me much when she told me later that she named me after a pet pony she had back east!

"At this school I was given crayons and colored chalks, the first I had seen, and I



Governor Julio Abeyta of Tesuque, one of the 19 ancient pueblo villages in New Mexico. Each is a distinct political unit, electing a tribal council headed by a governor who serves without pay. U. S. Indian Service photo.

am afraid the rest of the things the kind teacher brought to my attention were sadly neglected. Many years later I spent days painting a mural for the schoolroom and it gives me pleasure to know that my sister's children can see it there as they learn their lessons from white school books. I stayed in that school for many years, stayed until my grandmother died, and then I went to the art school at Santa Fe. This school was organized by wise artists who recognized the fact that Indians have an original style of their own and that any effort to make them conform to conventional rules merely stifles native talent. There I began to draw and paint pictures which were sold by the organization. Sometimes I would work a week on one picture, having no pattern except the mental images remembered from my grandmother's stories of our people and their gods. I was a very excited girl when a picture was sold for \$25 and the money, 25 silver dollars, poured into my lap."

"What did you do with the money, do you remember?"

"Do I? I bought myself some clothes, the kind of Sunday clothes the other girls wore. We were allowed to wear our own dresses on Sundays and holidays, provided we had any to wear, and always before I had worn the school uniforms, lacking clothes of my own. Do you know that a girl can't be entirely happy unless she is dressed in the same way her companions are?"

"I bought a clear yellow linen dress and a brown linen coat and brown oxfords and yellow anklets. No matter what fine things I may be able to wear during my lifetime I'll never be as dressed up as I was then."

Rufina Blue Water stopped. She seemed to think that her story was told, but I knew the rest of it, having known her from childhood days. After that first sale she went on to a modest fame among real lovers of Indian art. Her symbolic paintings were in great demand at the local

art shops, and almost any little sketch with its "Rufina" in the corner was quickly sold. There was a subtle touch of inspiration which set her paintings apart. I have one of her earlier pictures hanging in my living room, and as certain lights strike it the figures seem to come alive. A long-legged fawn, its sensitive head held high, is ascending a mountain facing the rising sun. Behind the fawn is a rainbow, a perfect gem of color. For some reason, she would never tell me the fable this picture illustrates.

The little Tesuque girl was the fashion among Santa Fe artists. And then something happened that broke her heart and took the very soul out of her work. The paints were scornfully thrown away, the easel broken, and Rufina went home to her own race. She shunned white visitors and when friends from the art school came seeking her, she was all Indian. Slender and proud and distant she faced them across an abyss they could not bridge.

But genius burned too strongly to be ignored. She turned to the pottery making learned from her grandmother in the happy years of childhood. Little by little the calm unhurried life of the village stilled the storm and she was happy again. She lived in the low whitewashed house of her sister, dressed like other Tesuque women, and shared their every task and pleasure. For months she fought the urge to use her canvas and paints again, remembering the despair of months before. Each morning she'd watch the men go out to their tiny fields to cultivate the crops. Each evening she'd watch them come home and greet their wives and children. Every Indian woman baking her crusty loaves of bread in the outdoor oven, each one shaping and painting pottery in the shade of the cottonwoods, cried out with a picture she longed to paint.

She returned to the art school. And from there she went to the Dells in Wisconsin with other Indian artisans. Hundreds of white visitors listened to her singing as they sat around the nightly campfire, and she could not paint pottery and pictures fast enough for their demands. She was happy again, because she was doing her own kind of work—and she was in love. At the Dells she met a Winnebago lad, as ambitious and high bred as herself. It was a perfect love story. When summer ended they were married and went back to Tesuque. They worked so hard they were granted the right to build their own home on tribal land, and in the meantime they made an abandoned house into a studio where both were always busy, she with her sculpture and painting, he with the silverwork and leather he turned

into belts and moccasins and hatbands. Through his interest in the tribal dances she began to put on paper the intricate movements of their colorful ceremonies.

"I like best to paint the Eagle Dancers, just as I like best to watch that dance. There is something so graceful and dramatic about it, and then I think I like it best because I know of all the hard work that must be done before a dancer can qualify. Do you know the story of our Eagle Dance?" she asked me. When I shook my head, wishing to hear her version of it, she lost herself again in memories and her voice fell into the soft minor cadence of the older Indian women. I knew she was repeating word for word her grandmother's legend of the dance.

"Long, long ago no rain fell on the fields of our people for many months. The little children fretted and wailed in the shade of the cottonwoods where their mothers took them to try to relieve their suffering. After awhile even the cottonwoods died of thirst. All the people grew thin and ill and when a sickness struck the pueblo there was no healing rain to wash away the evil spirits. The older people fasted and prayed to our gods to send rain.

"Because we always had been a peaceful people and never harmed other tribes, the Great Spirit heard the cries for help

and he hid himself among the feathers on the back of an eagle and came to see just how badly we needed help. He was so sorry for us that he had the eagle call other eagles and they flapped their wings and drove all the clouds in the country to a place right over Tesuque. Then the Thunderbird was summoned, and he shot lightning into the clouds with lightning arrows so that the rain poured through the holes and wet all the land around the village. Where there were no holes in the clouds the eagles flew and shook raindrops from the tips of their wings until all the fields were refreshed. Since that day we have honored the eagle so that we may not again suffer drought. We dance to show him our appreciation. Is that not a beautiful reason for a beautiful dance?"

Rufina and her husband Ben lived in their ancient house while they earned money for the new home they planned. A little son, brown eyed and happy as his pretty mother joined the family. "Benny" was the pet of the pueblo, and dressed in tiny velvet shirt, white linen trousers and small silver trimmed moccasins, he danced for admiring white visitors. His smooth black hair was bound with a scarlet handkerchief and I often wondered why Rufina looked anywhere else for a subject when she picked up her brushes and paint.

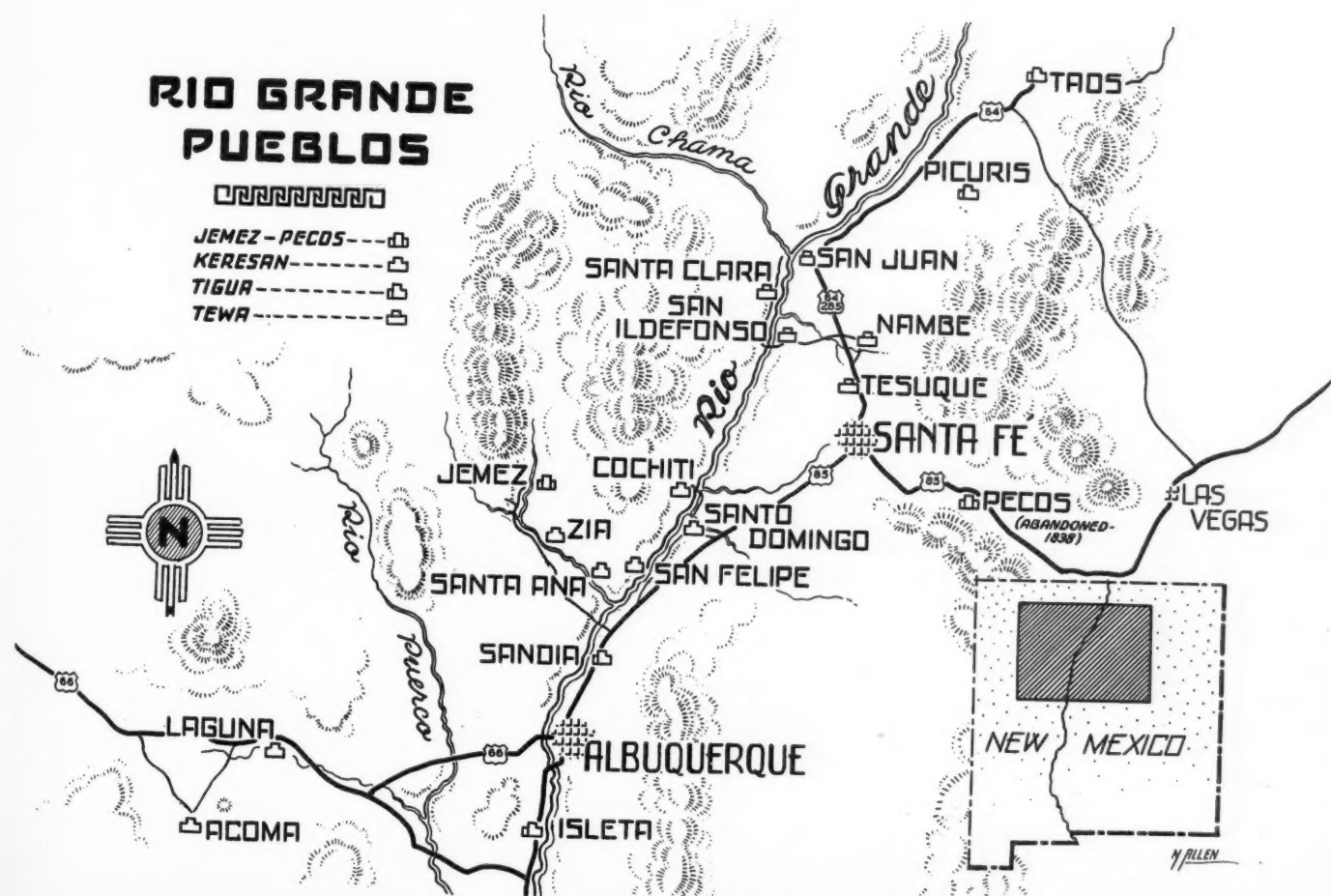
"Why have you never painted a picture of Benny?" I asked her as we sat there in Chicago.

"Because I am Indian enough to feel that it would be dangerous to draw attention of the spirits to him in any way. I love him so much I try to act as though I hardly see him so that *chindees* won't notice him."

The family was perfectly happy there together. Then came Pearl Harbor and Ben along with a dozen other young men from Tesuque went to fight for a country that has not always deserved loyalty from its red children.

"I was so lonely I thought I would die," said Rufina. "But I looked at Benny and remembered that a little child needs its own mother. I thought of Ben somewhere far away fighting to keep cruel men from coming to our land, and so I said to my sister, 'I must not stay here doing nothing. There is some way that I can help so that Ben and the other boys can come safely home again. Will you keep my baby safe and happy while I work for all of us?' The sister agreed. After her white schooling she was more than willing to go back and be a Tesuque Indian woman.

"I left while my boy was asleep, and I took the only picture I have of Ben and a very small one of Benny that his father



snapped when I wasn't watching, and I went to the art school and asked them how I could help. They said the Victory Bond Drive needed me. I went everywhere it seemed and told white people how the Indians had gone across the sea to fight for America, and how the Indian women are giving a day's work each week on pottery and baskets and beaded rabbit feet to the Red Cross, and how many of us have given blood to be used on the battlefields." Here she stopped and looked impish. "What would happen if one of our peaceful Tesuque boys was given a transfusion of fighting Apache blood? Would it make him go on the warpath sure enough?"

"Everybody seemed to buy bonds. I know, because I said I would make a little sketch or donate a small bowl of my making to each buyer. I think I must have used a ton of clay. I drew pictures of Indian ponies and Thunderbirds and chili peppers against 'dobe walls until I'm almost cross-eyed. From that work I came to Chicago. Here, as you know, I have made pottery and painted it for the public to see. And I have made water color sketches of things I remember in our pueblo for people who didn't want pottery. Out of each dollar I earn I take ten cents and give it to the Red Cross because maybe Ben will be hurt and they can help him if they have plenty of money. He is somewhere in the Pacific. See, here is his last letter." From the blouse of her Indian dress she took a crumpled letter warm with her heart beats and laid it in my hand.

"Dear Wife: I wish I could tell you where I am, but that might cause some of our brave men to be killed by the Japs. I can tell you that your brother Felipe is in Uran, and that he was wounded but is almost well. The news came to me through the Red Cross. I think always of you and Benny and the house we will build when this war is over and I can come back to the ones I love. When you pray in the mission ask our saints to watch over me so that I can come back, just as I always pray that you and Benny will be safe and well and guarded while I am gone."

I couldn't read more. I gave it back to Rufina and she opened a round gold locket hidden under her Indian jewelry. It held two pictures, one of Ben and the other of little Benny, his arms tight around an unhappy puppy.

"Tomorrow I will write my sister I'm coming home. I have saved enough money to build our house when Ben comes back, but I won't tell him so. I want to surprise him. I'll go back and take care of my son, and I'll ask my grandfather to teach him the first steps of the Eagle Dance. My sister will make some cornbread for me like Grandmother used to make, and I'll paint and make pottery and wait for Ben." She took the fragrant gardenia from her hair and looked at it wistfully. "I wish gardenias grew in Tesuque."

DESERT QUIZ

Here's a bit of geology and mineralogy, Indian life and legend, history and archeology, geography, plant and animal life. If you do not know the correct answers off-hand, you might do one of two things — start reviewing your Desert Magazine "lessons" for the past several months, or make some lucky guesses. If you score 10 right answers you are as good as the average person interested in the Southwest. Quiz editor will rate you a "Desert Rat." If you answer 15 or more correctly, you belong to S.D.S., that exclusive fraternity which draws so many of its members from among Desert Magazine readers. Answers on page 36.

- 1—During the year Marshal South and his family were away from their home on Ghost Mountain, they were—Hunting for the Lost Dutchman mine..... Traveling for pleasure..... Looking for another home..... Seeking local color and material for a new novel.....
- 2—Meteors are found in—Volcanic areas only..... Anywhere on earth..... Just in the desert..... In temperate zone only.....
- 3—Author of "Cowboy" is—Clarence Budington Kelland..... Zane Grey..... Ross Santee..... J. Frank Dobie.....
- 4—Laguna, one of the Rio Grande Indian pueblos in New Mexico, is located on—Rio Grande river..... Rio Puerco river..... San Jose river..... Pecos river.....
- 5—Starlite is—Artificially colored blue zircon..... Asteriated quartz..... "Fairy Crosses"..... Low-grade sapphire.....
- 6—Entire length (nose to tail-tip) of Kit fox, or Desert swift, is most likely to be—18 inches..... 25 inches..... 36 inches..... 45 inches.....
- 7—Navajo Indians believe the legendary Holy Twins—Were the first beings created..... Saved the world from evil..... Were the chief mischief-makers among the Navajo gods..... Are responsible for safe birth of children.....
- 8—Among miners, highgrading is — Condoned..... Condemned..... Ignored..... Non-existent.....
- 9—Monument to Hadji Ali (Hi Jolly), camel driver for Lt. Edward F. Beale, is located in which Arizona town—Ehrenberg..... Quartzsite..... Salome..... Tucson.....
- 10—Rampart Cave, in the cliffs above Lake Mead, is interesting because it—Has been created by national park service for recreational purposes..... Was home of extinct giant ground-sloth..... Yielded remains of prehistoric Indians..... Was hiding place for Hole-in-Wall gang.....
- 11—To become petrified, wood must be subjected to one of these conditions—Highly alkaline water solution..... Exceedingly low temperatures..... Depths greater than 50 feet..... Areas where bacteria flourish.....
- 12—When Roadrunners are first hatched they are — Soft and white with no feathers or down..... Semi-covered with speckled feathers..... Covered with white down..... Black and almost naked.....
- 13—If you were in Phoenix, Arizona, and you wanted to go to the Mexican border by way of Tombstone to see the Bird Cage theater, which U. S. highway would you choose—60..... 66..... 80..... 89.....
- 14—Hualpai Indians live—in a deep Arizona canyon..... On level plain near base of Shiprock, in New Mexico..... On land adjoining Papago Indian reservation..... On plateau northwest of Flagstaff, Arizona.....
- 15—Chrysocolla is—Colorful variety of quartz crystal..... Silicate of copper..... Iron oxide..... Sulphate of strontium.....
- 16—Montezuma's Castle is—Remains of a "bonanza king's" home in a Nevada ghost town..... Relic of northernmost point of Aztec civilization in the Southwest..... A reminder of Coronado's expedition in 1540..... "Apartment house" constructed by unknown Indians in Southwest.....
- 17—For material to be considered as sand, diameter of the grains must be no more than—1.5 millimeters..... 5 millimeters..... 1/4 inch..... 1/10 inch.....
- 18—Papago Indians of southern Arizona are called "Bean People" because—Beans are principal commercial crop of the tribe..... It is translation of their Indian name..... Certain steps in their tribal dances require a jerking motion which white people jokingly compare with the Mexican jumping bean..... A species of bean is common native plant on their reservation.....
- 19—Jet is found in—Coal deposits..... Volcanic strata..... Saline lake beds..... Limestone country.....
- 20—Lee's Ferry, famed way-station for river explorers, is located on—Shores of Lake Mead..... Colorado river..... Little Colorado river..... San Juan river.....



"Helplessly we watched the stream surge higher and higher . . ."

Escape from Navajo Land

In northern Arizona a vast high desert plateau is drained by the San Juan and Little Colorado rivers. There lies a silent empire. Silent—remote—timeless. Its far bright cliffs hold the secrets of antiquity. Life in this Indian Country moves slowly, uneventfully. But when the gods of earth and sky are moved, a swift change of tempo may bring vivid and tragic events, in dramatic contrast to the quiet, motionless landscape. Such an experience is told by Lynda R. Woods of San Jose, California, in this last of a series of nine prize-winning adventure stories published during the past year.

By LYNDA R. WOODS
Illustration by John Hansen

WHEN we decided to extend our two weeks tour of the Southwest we were excited with anticipation of thrilling days ahead. The romantic and fanciful names—Chilchinbito, Dinnehotso, Tonalea, Canyon del Muerto and Canyon de Chelly—evoked thoughts of high adventure. Not many hours passed before we were to encounter adventure beyond anything we had imagined.

There were four of us in the party—my husband Don and our nine-year-old son David, our aunt Elizabeth and myself. We

were at Kayenta, in northeastern Arizona, when we turned east to start on the 77-mile drive to Canyon de Chelly, planning to return by way of the Hopi Indian villages of Oraibi and Walpi.

Just three hours later, as a wounded bird plummets ingloriously to earth, our joyous and memorable vacation buried its nose in murky flood waters, coming to a climactic end. We were an hour out of Kayenta when Don stopped the car abruptly saying, "I think that's the road we want but let's make sure. Dinnehotso isn't far." Thus a simple unmarked fork in a desert road led to disaster.

Just as the roofs of Dinnehotso came into view a large mud-hole blocked the road and we were stuck. Don ran to the trading post and in 15 minutes, for the munificent sum of 50 cents the kindly trader had pulled us out and started us back to the turnoff and on towards Canyon de Chelly. We passed a windmill nine miles from the trading post. A sudden shift of wind brought clouds directly overhead and changed a sunny sky-blue day into sodden greyness. Five miles beyond the windmill a heavy drenching shower descended upon us. For ten minutes it poured. Then as the rain slackened a sharp turn in the road revealed a small narrow wash. We tested the sand and found the roadbed satisfactory. The water was only a few inches deep and about a foot wide, but the farther bank was sandy and steep. We remained out of the car to lighten the load.

Driving carefully Don safely crossed the narrow stream. But

the car wouldn't take the steep bank, so he backed down for a better run. Then IT HAPPENED. The rear bumper and the exhaust buried themselves in the sandy bank causing a loss of power. The back wheels began to spin in the shallow water. Repeated tries brought no results. We decided to wait a while, then try again.

Getting into the car to put on dry clothes we were startled by David's sudden cry, "Where does all this water come from?" One glance at the swiftly rising torrent disclosed our peril. Don made a broad jump to the bank. From there he urged us to hurry. Carrying our shoes we waded ashore barefooted—all but David, who in the excitement left his shoes in the car.

Calamity, striking suddenly, left us speechless on the farther bank. One moment we noticed the water level was falling rapidly and the next an angry rising flood was swirling around the car. For us the rain was over but the stench-laden waters rushing past us came from a cloudburst on Black Mesa some 30 miles away, effectively blocking our escape toward Dinnehotso.

Helplessly we watched the stream surge higher and higher, find its way into a back window, and begin pouring out on the opposite side. Food, clothing, drinking water, down beds, air mattresses, a stove and a tent, were now hopelessly beyond our reach. But our lives were more valuable to us than our possessions, so there was nothing to do but let the torrent take its toll.

As we turned sorrowfully away a sudden ghastly sound rent the desert stillness. In this isolated spot the long continuous blast of the auto horn was a sound that pulled at our heartstrings. Then some 20 minutes later with the same startling suddenness, the horn stopped. Curious, we hurried back, for the water had receded some. We discovered Elizabeth's suitcase floating up on the steering wheel had caused the horn to blow.

Seeing the lowered water level Don slipped off his clothes and wading waist deep mounted the upstream running board to fish out from the car whatever he could reach. We spread the rescued dripping clothing on nearby weeds hoping it and the mud encased kodaks might dry between showers.

Darkness came quickly. David dropped wearily upon the wet earth with only his half-soaked mackinaw as insulation. Elizabeth threw her wool slacks over him and I covered him with a mound of sticky suffocating Russian Thistle. This diverted much of the now recurrently falling rain and he lay quietly while we three huddled shiveringly beside him. Through four successive thunderstorms we huddled, shifting and turning to find a softer or a dryer spot.

The tedium of the long dreary hours was cut sharply when in the blackest part of the night the pile of weeds moved suddenly and David's terror-stricken voice cried out, "Mother, are any of us going to DIE?" To comfort him I sang. Twice through the stanzas of "God Will Take Care of You" my quavering voice faltered. Then all was quiet and I knew he slept.

The chill wind of morning began to blow. Gradually the grumblings of the Thunder God ceased. The first glimmer of dawn revealed the holocaust strewn about on the bank beside us. Protruding from the mound of weeds were David's feet encased in a pair of his father's shoes tied fast to the ankles. In the morning light I saw that the water was low enough to wade across the road, the only direction where help lay.

We threw our shoes to the farther bank and Don led David through the swiftly flowing stream. But it was not with the hopelessness of the night before that we were leaving. Even though help was 18 muddy miles away our hopes were rising. Slowly our little cavalcade started back over the road we had traveled so light-heartedly the day before. Today we were a group of refugees plodding along the road, each carrying a pathetic little bundle of possessions.

With pools alongside, each step on the almost level road brought up a load of tenacious gumbo mud. It pulled the shoes off Elizabeth's feet and part of the time she walked barefooted. With great effort David pushed his clumsy shoes along. But de-

spite difficulties progress was made. Slowly the hours passed with no break in the monotony save when a flock of Mourning doves flew alongside and when the single orange was divided four ways.

At last Don spied the dim outlines of the windmill and soon afterward he saw an Indian hogan nearby. He set out at once to interview the inhabitants. Weary, lame and hungry we reached the windmill one by one and had our first drink in 24 hours. While an Indian went for his horse we ate a can of spaghetti, one of grapefruit, and a small can of salad fruits. We opened the cans with a pocket knife and ate with the blunt end of a nailfile.

When the Indian returned with his horse Don gave him all our small change, \$1.75. The Navajo diligently counted the quarters, nickels and dimes and held up four fingers saying "Pesos." In desperation we decided to add a check. The Indian smiled, spoke a long unintelligible paragraph and started off towards the hogan. We thought our cause was lost. David consoled us saying, "He's not angry. He smiled when he did all that talking."

As we started wearily down the trail we met the Indian returning at a rapid pace. He took the money and a note Don had written to the trader, and after carefully scrutinizing the check he nodded and rode quickly toward Dinnehotso.

By 2:30 we began to look for signs of a rescue party. Three o'clock came, then 3:30 and 4:00. Still there was nothing on that silent desert road but ourselves. The hours since noon had seemed endless. The afternoon was hot. Our faces were burning. We were all thirsty. We had let David drink from a rain puddle but the water was red and tasteless. Hope of rescue had been abandoned. Soon David sank down almost too exhausted to move. I dropped down beside him thinking we would have to let the others go on though we had resolved we would not separate.

Suddenly I sprang to my feet. I heard the most glorious sound in the world—the sound of a motor in low gear. I pulled David to his feet and supported him as he shuffled along toward the truck. Mr. Bloomfield's cheery voice called out, "Come on, old fellow! You're only five miles from food and shelter." There beside him sat the Indian who had carried our message.

At the trading post a lady offering hot water, clean clothes, food and beds caused the weight of centuries to drop off our shoulders. Gratefully we sank into our pillows and slept.

But our tribulations were not over. After a gruelling Sunday at the fatal wash, Bloomfield, Don and three Indians had to abandon the car a second time. Another cloudburst had washed it a half mile from where we had left it Saturday morning. Collecting the silted contents of the car they returned to the trading post in the truck.

Here we were, four stranded souls and a pile of muddy luggage in the loneliest section of the United States without transportation. All roads to Dinnehotso were blocked by the widespread storm. Only the one to Farmington, New Mexico, via Mexican Water trading post offered an escape. We were cut off from the rest of the world except for a slender line of wire, yet that slender thread carried our cry for help hundreds of miles away. Sunday at midnight came the assuring words from San Jose, California, "Your insurance covers."

Tuesday a government truck going to Farmington had room for Elizabeth. Don piled bedding into the back of the truck and bounced his way along that 132-mile roughest-road-of-all. Luckily, David, the luggage and I were transported later by the Gibsons of Mexican Water. Wednesday morning four disheveled persons boarded the bus for Gallup, New Mexico, thence to Los Angeles.

As we left the strange Navajo world, which is guarded by Shiprock at its eastern edge, our harrowing experiences already were lessening in our minds. Unanimously we said, "Let's go again. Just as soon as we can!"

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FEBRU

Nomads of Inside-the-Rocks



"I had at last reached the heart of Tsey-begeh . . . Through stony gates loomed the fantastic buttes and cliffs of Monument Valley . . . Colorful walls lunged upward a thousand feet from the sandy desert floor . . . White-flowered shrubs scented the air . . ."

As John Blackford drove away from Harry Goulding's trading post, he went even deeper into a fantastic land which would have been more believable in a legend. Canyons ran criss-cross through red rock, mesa walls rose a thousand feet sheer from the desert floor, spires and monoliths cut red gashes from a May-blue sky. But when he reached the very heart of Inside-the-Rocks he found a secret age-old paradise . . . Here Leon and his family dwell, tending their herds of sheep and goats, grinding their multi-colored corn, weaving their blankets—yet so unencumbered they can move from pasture to pasture with the seasons, relinquishing none of their precious freedom—except when Leon has to ride in to the trading post to sign for his ration card!

By JOHN LINDSEY BLACKFORD

Photographs by the author

FOR a dozen miles out from Goulding's trading post the car straddled cavernous washes, scraped over sharp rims of rocky arroyos, and churned across powdery sand. Back beyond the post a score of miles dozed Kayenta, Ari-

zona, America's most isolated postoffice. Farther back were Marsh pass, lonely Cow springs, the tawny, drifting, treacherous sands of Tonalea; then Moencopi and Tuba City. Past all of them, I had at last reached the heart of Tsay-begeh.

This tongue-teasing Navajo name means Inside-the-Rock. And that is where I found myself. Cavernous canyons gashed the red sandstone in every direction. Colorful mesa walls lunged upward a thousand feet from the sandy desert floor. Behind and beyond, through stony gates loomed the fantastic buttes and cliffs of Monument Valley. No more alluring land can be imagined in which to become acquainted with the Navajo way of life.

"Taniyazi's sister-in-law," as my Navajo guide Leon spoke of her, was at road's end to bring me to his hogans.

"Yab-ab-tey, hello," I said, and in a moment pointed to my camera. The slender Navajo girl, standing at the curving crest of a dune, presented an irresistible picture. Quickly I captured the scene, while the wind tossed her hair and the sand sifted about us.

"Lab-ab, hogan-go," I struggled with the few "Navvie" words I knew. Soon



Taniyazi's sister-in-law looks on while his wife works at the loom, weaving a beautifully patterned dee-yo-ki, or blanket.

she was leading the way mounted on her wiry pony.

Ghostly grey trees just coming into leaf leaned against the precipitous wall of the mesa. White-flowered shrubs scented the air. Dark black brush stretched away endlessly down canyon corridors. Soon we passed a diminutive dam braced across a narrow gorge that hoarded scanty winter run-off from the mesa top. Later I was to discover the great, sprawling tracks of a blue heron in wet sand below the pool—a

mystery here beneath sheltering cliffs, unnumbered miles from any mentionable body of water. Upon rounding a shoulder of the rock, we glimpsed three hogans humped on a broad dune between towering canyon walls.

"Hogan," I pointed. Then stroking her pony's sleek shoulder as we paused, I inquired for the Navajo word by turning to my companion with tongue-tied expression.

"Klheenb," she volunteered.

Grandmother was grinding many-colored Indian corn on her metate.



I tapped her saddle questioningly. "Klheenb-begeh." We laughed as I tried the nasal syllables. Literally they say "rock-on-horse." I touched the bridle.

"Zah-tee."

A Navajo prefers to greet you silently. I merely sat down upon a wagon box on arriving, while Grandfather, who saw me first, went on trying to coax a nosebag over the suspicious ears of his unruly mount. Less stoical about palefaces, the horse reared, dragged the old fellow off his feet, and with a distrustful snort raced off wildly shaking corn from the feed bag. Grandmother came smiling to the door of the adobe-covered, Mandan-type structure that is the perfect home for these nomadic people. Then granddaughters Cathley and Lily, six and seven, peeped roguishly from behind the doorway blanket. Unable to restrain curiosity longer, they soon were sitting for photographs—and candy.

Within the countless miles of the spacious Navajo reservation, time has brought little change from the past. Life still is nomadic, centering about the hardy flocks of sheep and goats that provide livelihood in this desolate land. Seldom are more than two or three neighboring hogans grouped together. A family head builds several hogans, and ranges between the different locations with his herds as seasons and pastures dictate. Sometimes corn is cultivated at the summer hogan, but usually the freedom-loving Navajo refuses to bind himself to his thirsty soil. Instinctively he has preserved his way of life, and continues to tread the ancient paths.

Once, as hunters and raiders, Navajo roamed widely over four states. Pushed back from waterhole to waterhole, they discerningly took from the white man's advancing civilization those things that bulwarked their own; all else they rejected. Herding was early borrowed from invading Spaniards. Silversmithing and gem-setting from itinerant Mexican craftsmen. Weaving they say was taught them by Spider Woman, but long before they practiced it, this art was known to their sedentary puebloan neighbors.

Children, especially little girls, quickly accept responsibility for the flocks. Leon came silently from a neighboring hogan, and together we followed the youngsters to the corral to watch the morning milking before the herd moved out to graze. Leon's corral is a natural wonder—a deep cavern eroded in the mesa rock, a hundred yards across, almost as high. Such a huge cavity is not unusual in Tsay-begeh, but this one is distinguished by a giant stone bridge arching magnificently over it. Roving sand particles, hustled along by gusty desert winds, have chiseled and etched the cross-

bedded sandstone into many intriguing forms.

A mounting sun beat hotly upon the sandy floor of the great cave. Goats and sheep milled in noisy confusion as Cathley, Lily and their little cousin raced in among them. Together they chased a nanny enthusiastically about until she escaped into the woolly, blating mob or else they had her securely by the horns. Then, while one or two held the she-goat in neutral, the third dairy maid pumped vigorously on the animal's short teats. Every minute or so she thwacked the old goat's udder with flattened palm to hasten the nanny's "giving down" of her milk. Meanwhile the carnival progressed with the riotous bunting and scrapping of agile kids, the bleary-eyed staring of patriarchal old billies, and the customary idiocy of frightened sheep.

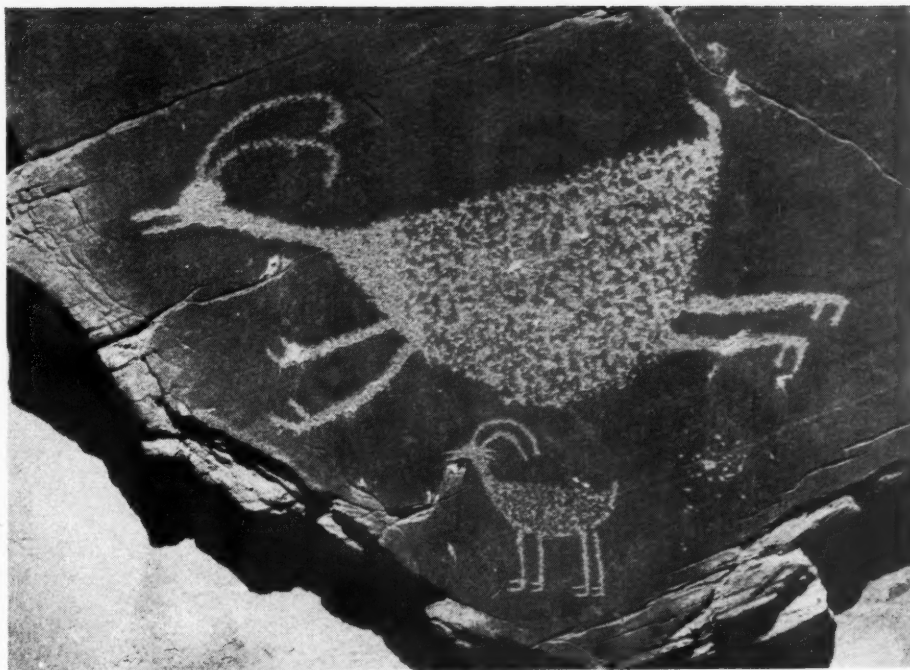
"You like pictures up there?" inquired Leon, pointing up to the huge red stone arch that cut a blue circle from the sky above the corral. He led up a steeply sloping ledge some distance away. His lithe figure was sinewy in tight-fitting levis and jacket, topped by coiled black hair and tall, black, uncreased cowboy hat. The wall bulged sharply outward as we scrambled along, half-leaning against the rough rock. A smooth, dry groove showed where infrequent rain wore deep into the stone, and spilled in a thin, ephemeral waterfall to the sand two hundred feet below.

"Had-i-twooh?" I grinned, using the Navajo phrase Leon had taught me when asking for water. "*Deb-bah-si-lee*, I'm thirsty."

To my surprise he motioned ahead. "Ah," he said, "Yes." We mounted to a little shrub-bordered dell, then on to deep *tinajas* or potholes in the rock. Some were 15 feet across. They were limpid, emerald pools reflecting high circular rims and the cloudless May sky. Climbing on again, we saw the Totem Pole and other majestic monoliths rise superbly against the rusty rim of the desert. Heat wrinkled the mysterious distances.

Atop the bare mesa, two wind-embattled junipers crouched in a shallow, rocky dale. Their clutching roots strove to hold every particle of earth gathered beneath low protecting crowns. Suddenly a large Arizona spotted owl sailed from his verdant retreat deep within their gnarled branches and banked off steeply on curved pinions into the dizzy canyon depths.

Within this little paradise against the sky, cool breezes allayed the heat of sun and barren rock. I could hardly suppress the urge to stretch out on my back and stare up endlessly into the dreamy blue that canopied our high oasis. Leon indi-



Leon took me to the red sandstone bluff where weird long-horned beasts leaped across the face of the rock.

cated the cropped herbage within the vale and remarked that the ponies sometimes roamed the mesa top, ascending over the same steep-shelving rock as we had done. Although aware of their agility, I was astonished at this uncommon deftness of foot.

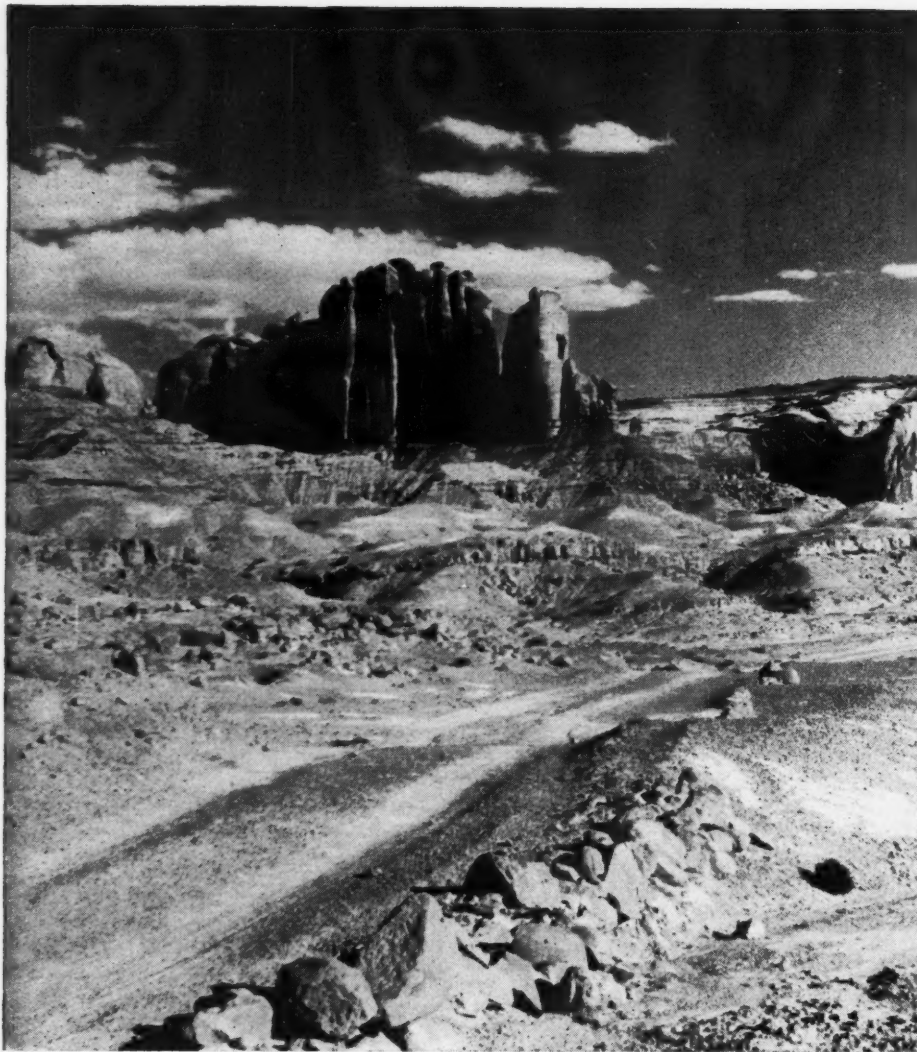
Now we slid down to stand at the precipitous wall of the sheep corral. The stone bridge swung up its curving span before us. Far down below, the flock rested on the yellow sand. A shout in Navajo to its small caretakers aroused the herd into

swirling motion. I set the Speed Graphic at 1/100 sec. and captured the unique picture; then shot again as the woolly current eddied around the dune against the farther wall. As we descended, the dark green pools cradled in the rock glistened in the shimmering sunshine and beckoned us in for a swim.

Half a mile away a second cave invited. It arched a stony dome above two curious, prehistoric pueblos. One, round like a watch tower squatted near the lip of the cavern. The other, of two circular rooms,

Some of the tinajas were limpid emerald pools 15 feet across.





John Blackford followed the sandy rocky road beyond Goulding's trading post to road's end, where Taniyazi's sister-in-law met him and led the way to Leon's hogans.

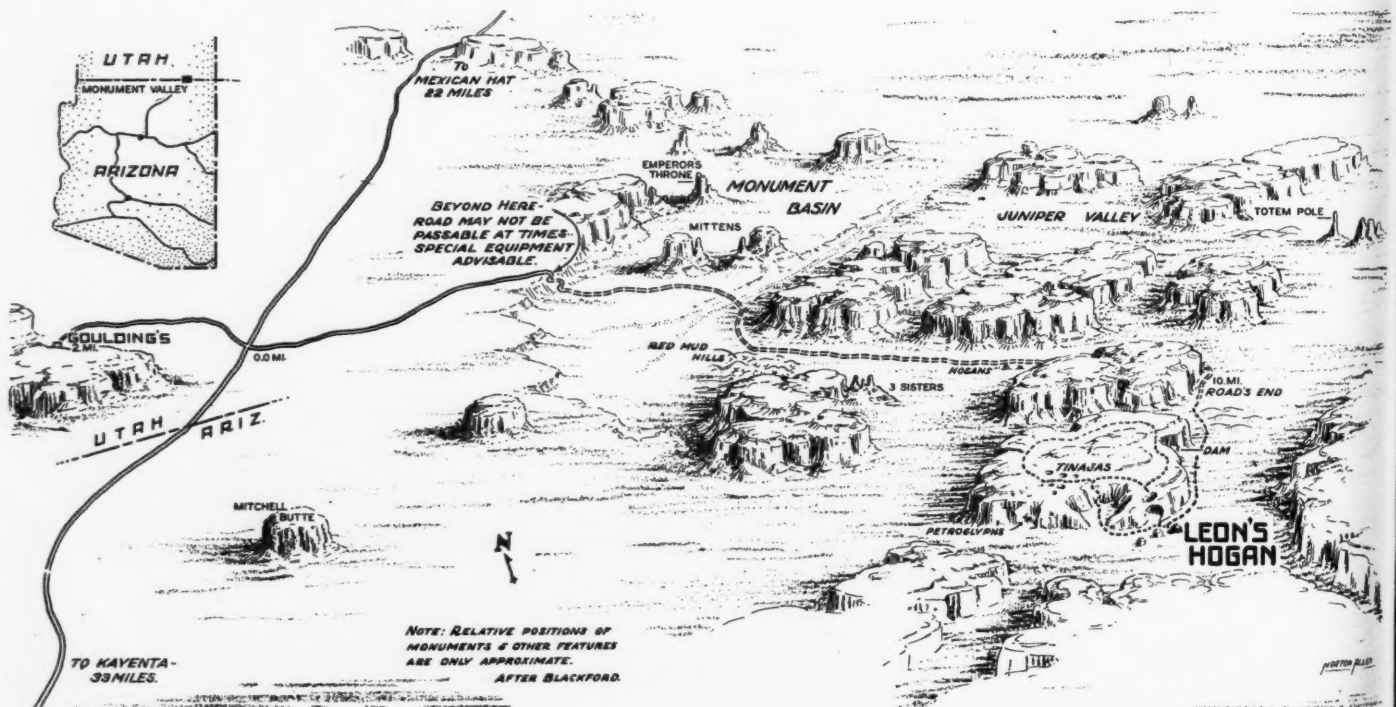
hugged the recesses where the roof slanted abruptly upward. There we lingered in cool shade.

"Show me the pictures-on-rock, Leon," I urged as he drew weird animals in the sand, illustrating rock writings on an ancient cliff. Again we plodded over the rippled dunes and flinty floor of the canyon corridors. Where slabs of a red sandstone bluff had cleaved flatly away, providing a perfect plane for the mural, long-horned beasts leaped across the face of the rock. The figures, chipped out in profile, with long, recurved horns, resembled gazelles more closely than native pronghorn antelope, adding to the strangeness of the petroglyphs and the mystery of those forgotten artists.

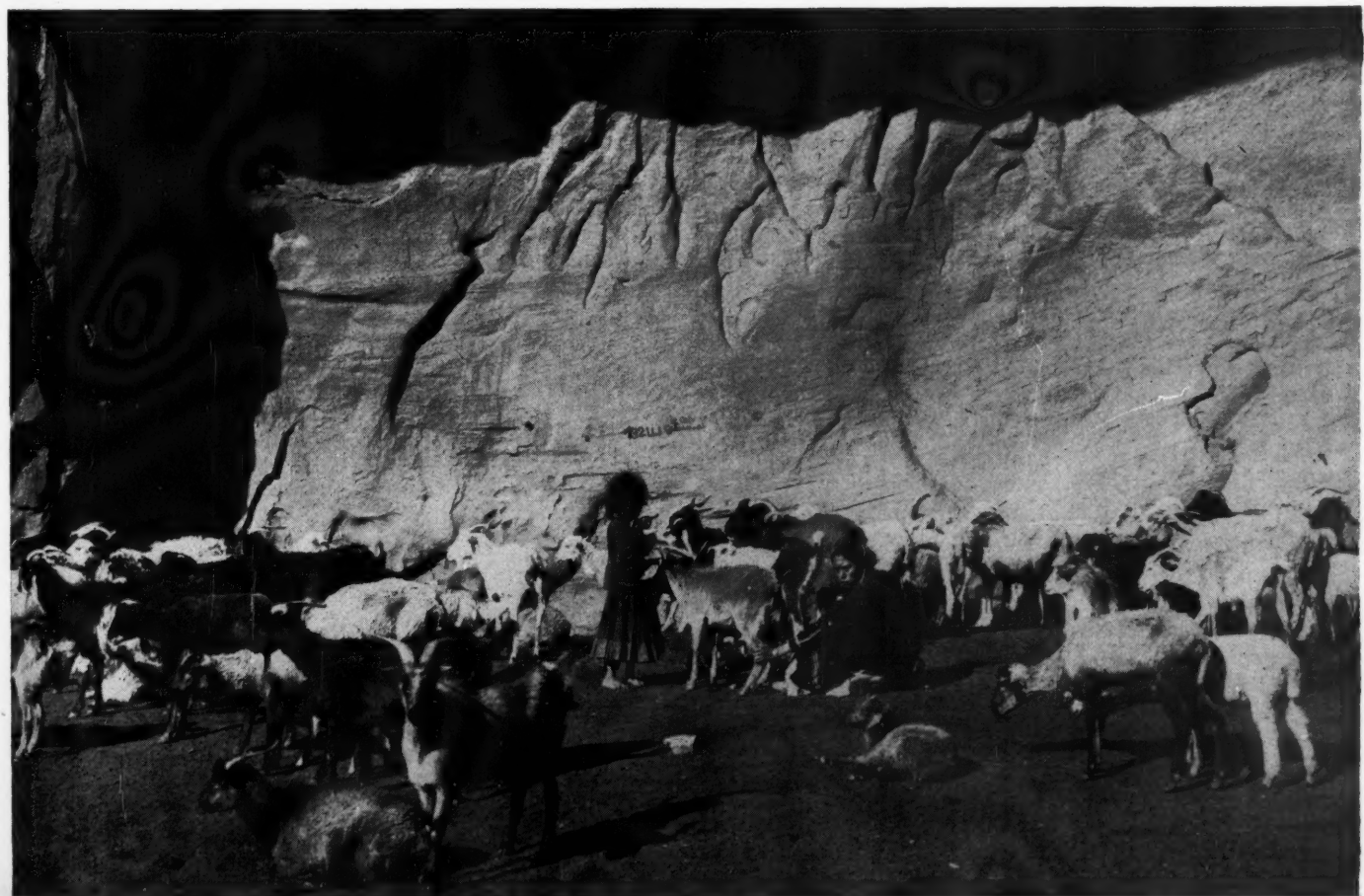
Back at the hogan, Grandmother had been grinding many-colored Indian corn on her metate. Leon and I lounged upon sheep pelts covering the sand floor, while she poured batter into a black iron kettle. A length of stovepipe descended through the crossed roof logs to stand on the sand. Its base had been split and spread to contain the coals of a small fire that glowed against it, sending fragrant juniper smoke curling up the battered pipe. This simple device made the most handy portable "stove" I had seen.

To delicious corn cakes and balls from meal of her own grinding, Grandmother added boiled mutton, karo syrup, and strong black coffee.

Beside me the children busied themselves putting out a small wash, its irrepressible yucca suds bubbling out of the pan. Cathley and Lily buried jet-bright eyes beneath untamed shocks of hair and giggled infectiously when I held up their



ZINE





Lily and Catbley are but seven and six but already they are experienced little dairy maids.

pet and, with a foamy yucca root, demonstrated how the kitten might be given a beauty bath.

"Perhaps Taniyazi's wife will show us her weaving, Leon?"

"She ready now," he agreed, and soon led the way to her roomy hogan. It wasn't long until I found myself conducting the show. Only the young matron and I were interested in the beautifully patterned *dee-yo-ki*, or blanket, that she was creating upon her rough loom. All the others, including men and boys, crowded within to watch the camera being adjusted on its tripod, to note the synchro-flash mounted part by part, and to comment jocularly about the nervous shutter-shooter. Everyone blinked and laughed as the bulbs flashed, but the swift batten of the weaver moved unhesitatingly to draw the wool down firmly.

One evening, while camped at my car, Grandfather put in a sudden appearance. To entertain him I turned through the pages of a Pow Wow program. He at once went into a long speech, gesturing and semaphoring emphatically—which I took to mean that he was acquainted with some of the pictured braves. But he departed somewhat frustrated. Promptly the next time Leon was in camp, he rode in and again unburdened himself. Grandpop wanted *his* picture took!

Just at dusk a caravan of sheep, goats and strange Navajo swept by, with only the sound of soft scuffling of hoofs in the yielding sand. I was opening a package of dates, and seeing this an ancient, skinny elder detached himself from the motley procession. Sitting his delapidated mount,

he rubbed his sunken belly impressively, an almost painful expression reflected on his weathered face. At the same time the other hand, in its vigorous gyrations, seemed about to be thrust down his throat. My faith in sign language revived immediately.

In these remote, red canyons are scattered some of the most hospitable people in our fortunate country. Secure now among us in their own way of life, it is not inappropriate then that even on their far, wind-combed, desert ranges America's new fight for freedom has not passed these sturdy nomads by. Tall young Navajo leave familiar seats of their high Spanish saddles for bucking backs of jeeps and tanks. As I steered back through the shifting sands of Tsay-begeh, it was to take Leon out to the trading post to sign for his ration card.

Desert Philosopher . . .

SOLILOQUIES OF A PROSPECTOR

Drawing by Frank Adams

Text by Dick Adams



"THE AXIS OF MY WORLD TONIGHT
RADIATES THE CALM I'VE FOUND;
WITHIN THE CONFINES OF ITS LIGHT
I FIND MYSELF ON HALLOWED GROUND!"

Boomer is a lizard. He is out on the desert now, where he first was discovered by Lucille and Keith Boyd. But he proved he could adapt himself to city life when for a brief period they "adopted" the little collared lizard. Boomer did more than entertain the Boyds and their friends—he helped dispel the idea that he was a "dangerous character" and he made more than one person conservation-minded.

Adventure of Boomer

By WELDON D. WOODSON

KEITH BOYD and his wife, Lucille, were out in their favorite desert retreat—a stretch of country near the California-Arizona line north of Needles. They had reveled in their study of plant and animal life native to the region, and, being entomologically minded, had taken special note of the insects nestled close to the earth. They had just bent down on their knees to scrutinize the markings of a species of beetle unfamiliar to them, stood up and were about to resume their rambles when Lucille said, "Look! What are those men doing?"

Keith peered some quarter of a mile distant and saw two men and a boy about 14 years of age get out of a car and cautiously walk over to one side of the road. They arranged themselves in a sort of huddle and directed their gaze upon an object that apparently lay at their feet.

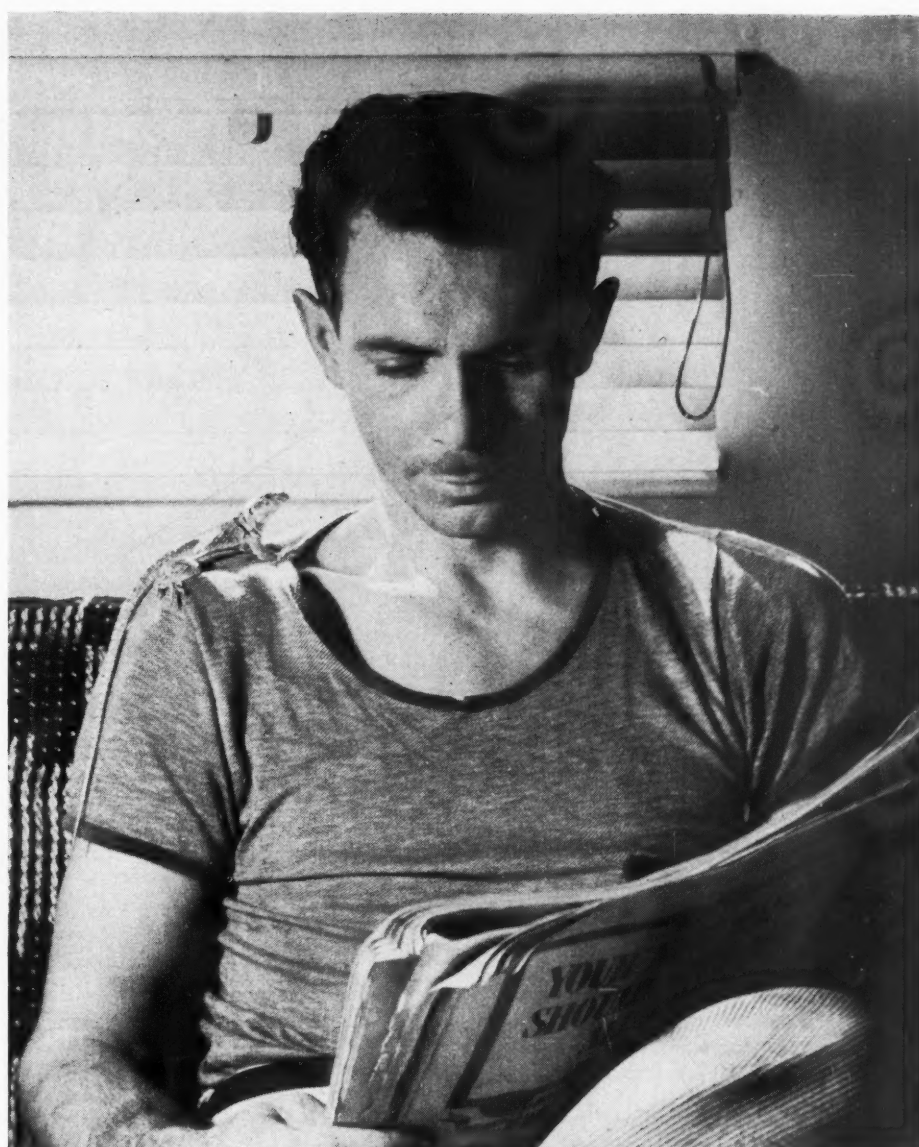
Keith said, "I wonder what they're looking at? Let's find out."

When they were within ear-shot they heard the boy exclaim, "Let's kill it!"

"Kill what?" Keith summarily said as he nudged his way in. He is an ardent advocate of the conservation of desert wild animal life, and few things can arouse his ire more than to hear anyone suggest their destruction.

"Kill this poisonous lizard," answered the elder of the two men, who evidently was the boy's father. "It's deadly."

The Boyds looked down and there on a slab of rock cringed a greyish, spotted lizard. Its tail was turned up part way around its body. If it had been outstretched, the creature's entire length would have been fully 10 inches. Its fore-legs were



While Keith read the evening paper, Boomer would perch himself upon his shoulder.

short, its hind ones long and powerful. Two black bands separated by a whitish space formed a double collar about the upper portion of its neck. Its eyes were bright and prominent, and it periodically opened and closed its eyelids. It possessed a distinct and well shaped neck, which joined onto a squared head that seemed huge when compared with the remainder of its body.

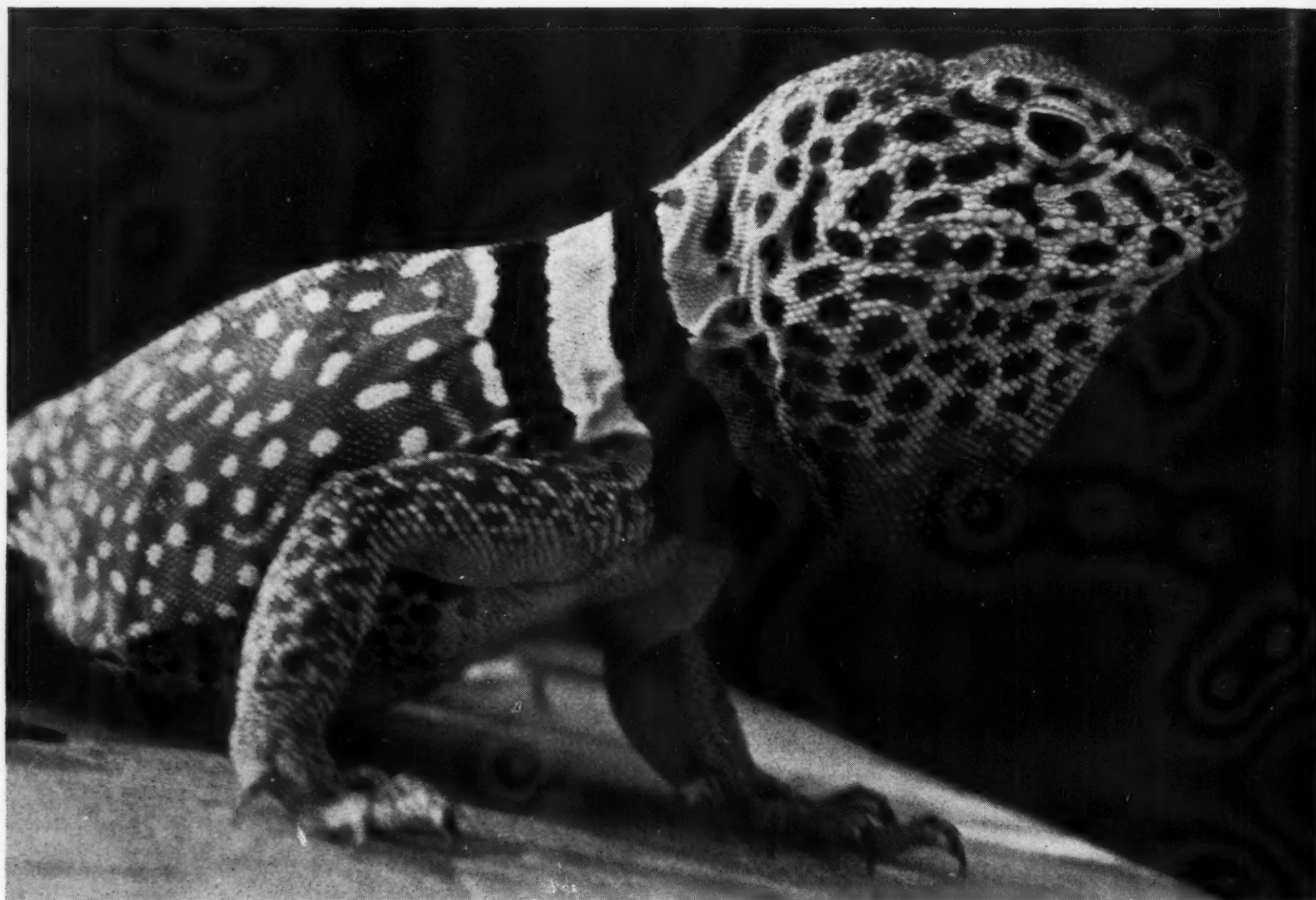
It opened wide its mouth and revealed a black throat, which caused the two men to shudder and the boy to declare, "See! Its dangerous."

"No, that's where you're wrong," countered Keith. "It's a collared lizard and harmless as a lamb. It opens its mouth that way when scared. Sure, if you annoy them much they might hurt you. But they certainly aren't poisonous. It's a wonder it hasn't skeltered away. Now don't move and I'll show you something."

He stealthily crouched down, extended his cupped hands, and with a quick thrust

clamped them upon the lizard. The creature was not hurt but it was momentarily stunned with surprise. Keith carefully got to his feet, gently held his hands enclosed about the lizard, and remarked, "Take a peep at it." He spread apart his thumbs, and each in his turn looked in.

Then he told them about some of the characteristics and life habits of the collared lizard. Its name was due to the two black stripes across its neck which suggest a collar. Their color varies from grey, bright green and orange to yellow, with polka dots of brick red, white or brown. The male is of a livelier color than the female, but at the time of mating both may take on brighter tints. The female collared lizard during the month of August deposits within a little depression in the desert sand from 15 to 21 eggs. Each egg is about half an inch in diameter, and of a whitish color and delicate texture. Only a small proportion of those which hatch will reach maturity for they are



*Close-up of Bailey's Collared lizard, taken a moment after having swallowed a Sand lizard.
The two black shoulder bands easily distinguish it from other harmless desert lizards.
Photo by Joe Orr, Los Angeles, California.*

preyed upon by natural enemies, such as the larger snakes.

Keith further told his audience, while keeping the creature comfortably caged in his clasped hands, that collared lizards are found not only in the country round about them, but also in Utah, Nevada, Arizona and New Mexico. They may dig a burrow under flat stones, where they retreat shortly before sunset and remain until the sun is well up the next day. They invariably remain in this hide-out during cloudy and rainy days. They have an enormous appetite, but find little difficulty in obtaining ample food due to the unusual variety of their diet. It includes swifts, horned lizards, young snakes, grasshoppers, crickets and mealworms. They even may eat the blossoms and tender leaves from desert plants. They tuck their food down into their cavernous mouth by means of their front feet.

"Suppose I were to turn this lizard loose," Keith concluded. "Do you know what would happen? Well, it probably would take one squint at us and skim away, to attain full speed after a few feet. Its tail would rise sharply, the fore-part of its body would rear up, and on its hind legs, kangaroo-fashion, it probably would

run for 75 feet or more. Should it encounter a hole or small ditch, it would press its body snugly against the ground, fold its hind legs like a frog, and leap across the gap and land on the other side."

The boy and his father nodded, and the other man said, "And to think that I had always thought of Boomers—that's the name I have known them by—as deadly poisonous! Well, we'll never kill any again. So long."

They climbed into their car and sped away. Keith exclaimed, "Boomer! Did you hear that? That's its name. Hello, Boomer! I think I'll take you home and learn more about you. And you'll have plenty of nice juicy worms to eat, too. Won't he, Lucille?"

She smiled tolerantly at his enthusiasm. She didn't know that shortly she too would be as interested in Boomer as he.

The lizard readily adapted itself to its new home. The Boyds loosed it in their front room and soon it selected for its nest the right corner of an overstuffed chair along the cushion and arm. It would retreat to its den at sunset, coming from a window ledge, down the curtain or wherever it might be. It would not scurry out the next morning until the house was

warm, either from the sun or stove. Once it made its appearance, however, it would spend the livelong day scurrying here and there, and often would perch upon Keith's shoulder as he read the evening newspaper.

And Boomer was a source of fascination to visitors at the Boyds' home. Once the pastor of their church called, sat down in Boomer's chair, and launched into a friendly discussion of the happenings about the parish. The conversation began to lag after a bit, and Lucille asked, "Do you like lizards?"

"Lizards!" commented the reverend gentleman, a little taken aback by the abrupt turn of conversation. "Why, certainly. I enjoy all of nature. Surely, I like lizards."

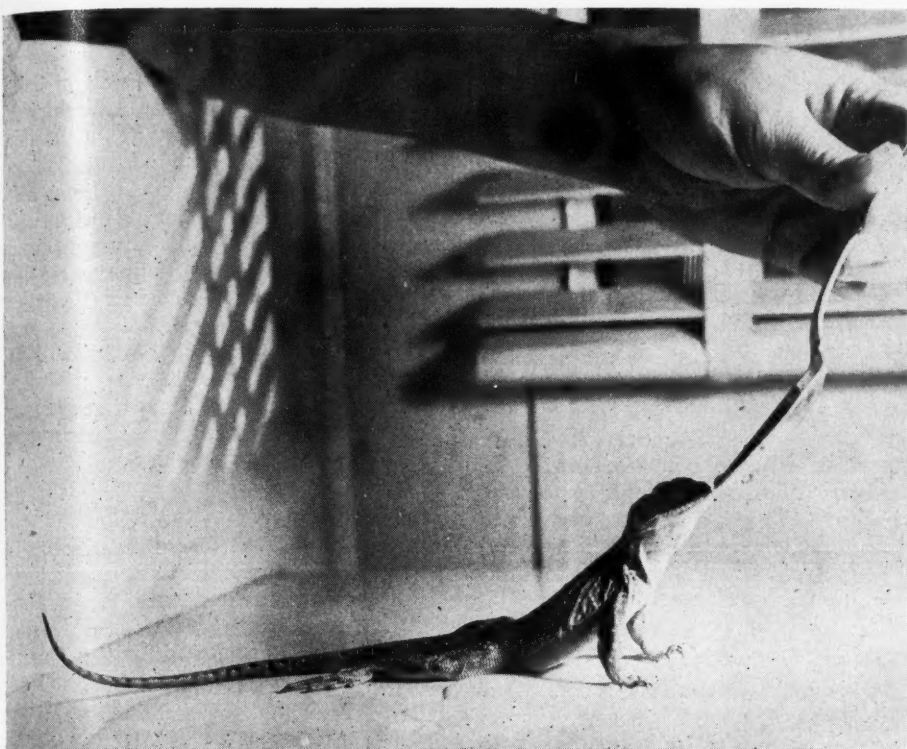
"Well, you are sitting on one," Lucille quietly informed him.

"Ooooh!" exclaimed the otherwise calm minister as he arose from his chair. He looked back down at the vacant space, perceived no lizard of any shape or form, and with a little embarrassed laugh said, "Oh, well, that was a good joke on me. I thought for a moment there actually was one in the chair."

Lucille then revealed that Boomer was

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Boomer
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Boomer on the kitchen table taking water from a teaspoon.

ensconced in the niche provided for him, down in the right side corner of the arm chair. This incident aroused the minister's interest in desert life, and upon every possible occasion he joins the Boyds in their explorations in Arizona and neighboring states.

Boomer's eating habits kept the Boyds entertained. At times they would feed it black crickets. It would grasp one by its forelegs, cram it part way into its mouth, scamper up the back of the sofa and straddle the top. Here at its leisure it would

work the insect down. At other times they gave Boomer green tomato worms, as big as one's second finger, from their garden. It would grab onto the worm, thrust it into its mouth head foremost until about half of it remained out, then slam it against the floor like a fox terrier with a rat until the worm was weak and could be handled with ease. The Boyds confess that their tomato crop was ruined because they permitted the tomato worms to thrive so there would be plenty for Boomer.

Even its procedure of drinking water

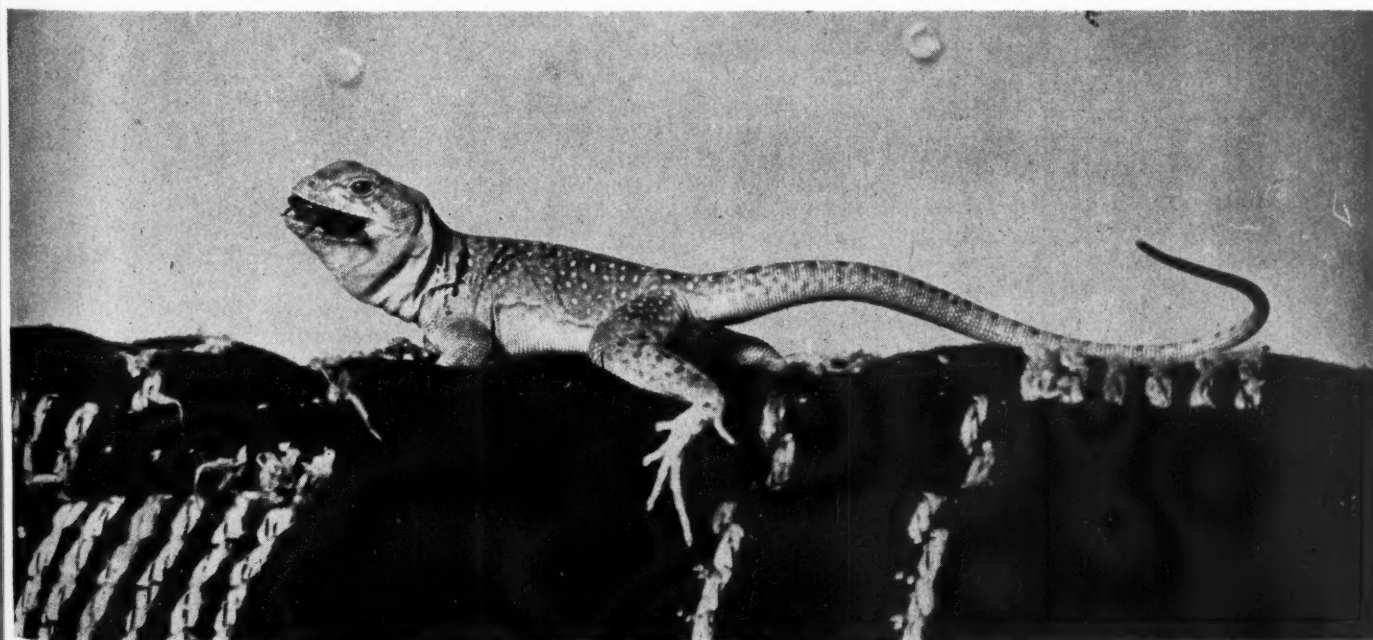
fascinated the Boyds. Keith would let it rest upon the back of his left hand, hold a teaspoonful of water in his right, and give it a sip at a time. It would hold up its head and let the water run down like a bird. Lucille would quench the lizard's thirst in a similar manner, only she would place it upon the kitchen table. At other times it would greedily take a drop of water off the finger tip.

Keith once focused a No. 2 photo flood lamp in a metal reflector upon it as it lay on the carpet. A plate of water stood nearby. The lizard would bask under the light. Then when the temperature grew too hot, it would run over to the water, take a drink, and come back for some more of the heat. It repeated this performance half a dozen times.

There came a day, however, when the Boyds decided to take a trip to the vicinity where they had found Boomer. They took it along as a companion. They had hardly reached the range of its former home before it held up its head and seemed to sniff the clean refreshing desert air. They drove on a few miles and Keith lapsed into silence. Lucille sensed his thoughts. They stopped their car, got out, and Keith placed Boomer down upon the earth. It sat there for a few seconds as if undecided. Then off it raced, first on four feet and then in kangaroo-fashion upon its hind legs.

Keith and Lucille since that time have encountered scores of collared lizards (they now call them Boomers), but they never think of capturing them. They have been converted to the belief that Boomer, as well as all natural life should be permitted to run free and unmolested in the desert environment.

Boomer would grasp a cricket by its fore-legs, cram it part way into its mouth, then scamper up the back of the sofa to work the cricket down.



Mines and Mining . .

Denver, Colorado . . .

Joint meeting of western division, American mining congress, and Colorado mining association was scheduled here for January 27, 28 and 29. Wartime problems of the industry were to head discussion topics. Howard I. Young, president of the congress, is serving on war production board as director of minerals bureau and director minerals resources coordinating division.

Washington, D. C. . . .

War production board, under Green act which authorized treasury to sell "free" silver (metal not held as backing for currency) to essential war industries, has authorized use of \$25,000,000 worth as substitute for scarce metals in engine bearings, brazing alloys, solder and other war items.

Phoenix, Arizona . . .

Five of Arizona's largest mining companies were assessed \$1,495,609.14 in uncollected income taxes for 1940, 1941 and 1942 by state tax commission. Interest charge was additional \$135,624.01. Failure to collect the tax before has cost taxpayers several million dollars because state is prohibited by law from collecting on earlier income. The additional assessments were made on that proportion of the net income charged off to depreciation, for it was stated the companies long ago depreciated their properties to the full value allowed by law, making their entire net income, less federal taxes, subject to the state tax. Phelps Dodge corporation, operators of four large mines, was heaviest hit.

Winnemucca, Nevada . . .

Rebuilding of 250-ton concentration plant of Nevada-Massachusetts company which was destroyed by fire on Armistice Day will start soon, according to Charles H. Segerstrom, president, and Ott F. Heizer, manager. Mill was leveled by flame in one hour, burning on the 25th anniversary of its existence. Mining continues at property, ore being stockpiled.

Niland, California . . .

Lease of 520 acres state-owned land bordering north shore of Salton sea was voted in December by state lands commission to Pure Oil company of Chicago for wildcat oil drilling. Under 20-year agreement company will pay \$5 an acre plus royalties ranging from 12.5 to about 50 per cent of any oil produced. Company further is obligated to drill a well on other state-owned land adjoining lease territory, within 18 months.

Gallup, New Mexico . . .

Navajo tribal council recently passed a resolution calling upon Indian service to explore and develop large coal deposits in their 16,000,000-acre reservation. It has been apparent for some time, said James M. Stewart, general superintendent, that sheepherding and farming are inadequate to support rapidly increasing Navajo population, and situation will become even more acute upon return after war of 12,000 members of the tribe now in service. The millions of tons of high grade coal thought to exist there are considered not only as source of cash and labor for Navajo who will mine it but also as basis for industrial development.

Geneva, Utah . . .

Coke has been produced for first time in by-products ovens of Geneva steel company, a U. S. Steel subsidiary, at \$180,000,000 steel plant designed to supply steel plates for west coast ship building. The 1600-acre plant site was cleared of farm buildings in April, 1942.

Shiprock, New Mexico . . .

Ellis M. Frost Jr., 42, chemist at Navajo helium plant, and William M. Deaton, 45, Columbia, Mo., have been cited by Secretary of Interior Ickes for their joint work in developing an apparatus which aids handling of natural gas under pressure and in the production of helium. The men are in the technological-petroleum and natural gas division of bureau of mines.

Lone Pine, California . . .

Potential ore reserves of "several hundred thousand tons" are indicated in geologic formations of Darwin area, according to an article by L. Kenneth Wilson, geologist for E. L. Cord mining interests, published in November issue Society of Economic Geologists bulletin, Yale University, New Haven, Conn. Discovery of high-grade body of scheelite ore by Curley Fletcher of Darwin in 1940 was followed in 1941 by acquisition of 23 tungsten claims by the Cord interests which has brought production to 30,940 tons. Wilson estimates reserve of 26,000 tons of 0.60 per cent tungstite.

Mexico City . . .

Mexico's mining program calls for resumption of silver shipments to United States beginning May 1, 1944. No silver consignments have been made to United States since March, 1943. "Bootlegging" across the line in form of coins or crude jewelry is believed to have diminished.

San Francisco, California . . .

The series of papers issued in recent months on "Commercial Minerals of California," Bulletin 124, is now available for public distribution, according to Walter W. Bradley, state mineralogist. These papers have been made up in loose leaf form to fit standard binder. Supplemental papers of same size will be printed from time to time. Some 50 subjects are included in the bulletin, including the strategic minerals listed by U. S. Army and Navy Munitions Board. Orders will be filled for \$1 each plus sales tax; binders are \$1.20. Send order and remittance either to Ferry Building, San Francisco, or State Building, Los Angeles.

Washington, D. C. . . .

War production board continues its urgent request for quartz crystals or their locations. They are needed for making quartz oscillator plates for radios. Present supply from Brazil is insufficient. Quartz must be perfectly clear, flawless, at least an inch thick and three inches long, weigh at least one-half pound, preferably one to four pounds. While whole crystal need not be perfect, the bad part of the crystal must not be more than twice the volume of the perfect portions. Iron stain on outside does no harm. Light smoky quartz can be used, but otherwise it must be colorless. Anyone owning or knowing location of such material is requested to send a sample of several crystals to Miscellaneous Minerals Division, WPB, Temporary "R" Building, Washington, D. C.

Las Vegas, Nevada . . .

Construction at Basic Magnesium, Inc., has been completed. G. P. Smallwood, general superintendent of construction, and Ed Ball, general labor superintendent, of McNeil construction company of Los Angeles, who saw crew grow from one man to more than 10,000, have returned to the Los Angeles office.

Tucson, Arizona . . .

J. W. Bingham believes there's gold in them hills at the city dumps. He filed application with D. L. Bouse, district manager smaller war plants office in Phoenix for \$10,000 to finance metals excavation. He believes lead, zinc, copper and gold lie hidden beneath the strata of junk.

Winnemucca, Nevada . . .

Discovery of a rich cinnabar deposit in East range of Goldbanks district, 46 miles southwest of here, has been announced by Walter Low, mining man interested in Mount Tobin district. Low has named his discovery, which consists of five claims, the Jack Pot Mercury mine. He located it in November after prospecting for a week by tracing and panning. Two retorts show quicksilver runs 20 per cent or 400 pounds to a ton.

The storm gods are raging around the stronghold of Ghost Mountain these winter days. But members of the South family are ready for their fiercest blasts. For among their numerous wall-building projects is a newly completed one of granite blocks set in mud mortar which protects the southwest corner of their home. This month Marshal describes various types of wall construction with which they have experimented in the ten years they have been building Yaquitepec.

Desert Refuge

By MARSHAL SOUTH

STORM and the roar of storm. Wind thundering up the mountain and shouting through the threshing junipers with the deafening tumult of ten thousand titan harps. Through the yuccas and the creosotes and the ocotillos of the desert lowlands rush a hundred screaming eddies which flail the branches and strike yelling discord from a myriad whistling thorn spines. Against the ragged grey rim of the distant sierras moves a sullen sea of cloud. The towering masses of it, like the packed ranks of an advancing army of giants, press upon the peaks and spill avalanches of driving squall into the canyon deeps. Through rifts in the slow moving, ominous pall, rare shafts of the discouraged sun flicker like ghostly searchlights, the grey gleam of them laced with the steel stitching of driving rain.

And over all the wind. The wind is a living thing. It seems to shake the mountain with its gusty thunderings. The low sprawled ramarillo bushes and the stocky shapes of the ephedras cringe and flatten to the blast. Whooping maelstroms scream and clamor among the giant boulders. The little house at Yaquitepec seems to hunch down more solidly upon its foundations as it braces itself against the maniac fury that roars above its roof.

"Do you think, Daddy," asks Rudyard, cocking a speculative eye at quivering beams, "that the roof will blow off?"

But we do not think the roof will blow off. That humming sheeting of iron overhead is held down not by nails but by long screws. Nails would have failed long ago. Nails are a poor thing to use anywhere in the savage climate of the desert. But these screws have ridden out many a storm and will ride out many another. Reassured, Rudyard goes back to his cushion on the hearthstones before the big fireplace where Rider and Victoria are. In the ruddy glow of the flames that leap from blazing mescal butts the three of them sit, a graduated row of squatting Buddhas. The firelight turns the smooth skin of their naked sun-tinted bodies to bronze and fills their eyes with mysterious lights of dreaming.

But these winter storms that at intervals come charging down upon Ghost Mountain and our desert usually are short lived. Even the most savage of them, when to the trumpeting of the wind is added the iron-chill fusillade of driving sleet and hail. When the fury of the tempest has died and the sun comes out again in a sea of glory, every indrawn breath of the keen fresh air makes one rejoice and tingle in the sheer pleasure of being alive.

Snow comes to Ghost Mountain too, in winter. Sometimes



Tanya ignores a light snow fall as she walks among the boulders and mescals of Ghost Mountain.

the fall is heavy, sometimes only a flurry. But in every case it is something to delight in, with junipers and rocks and mescals and gaunt chollas decked in a coating of fairy ermine. Eager little faces line along inside the windows, noses flattened to the glass, despite the cold. Intent eyes are held fascinated by the drifting, fleecy curtain that veils the mountaintop as in the fluttering dance of myriad white moths. Our three desert-bred youngsters make no secret of the fact that they love winter—its storms and all. And we do too. But all of us are equally enthusiastic over spring and summer and fall. To us the desert climate is as near perfection as one could find anywhere on earth.

Christmas has come and gone. Its slow approach was productive of many small fingerprints upon the calendar and many worried puckerings of childish brows. Now it has been taken down, wrapped in tender thoughts and tied with a golden string and laid away in the great storehouse of memory. The tree has been taken down too, and its silver star put back into the little box to wait for next year. But not the gleam of it. We didn't put *that* away. The bright gleam of it is in our hearts.

It was a good Christmas. Not yet have all the cards and gifts and letters of friendship which lay beneath our tree on Christmas morning been personally acknowledged. But they will be. And, in the meantime, dear friends, our thanks and every sincere New Year's wish.

The ancient Romans, judging by accounts of their doings, were always building arches and walls. And it seems to us that in this respect we are like them. Not so much in the matter of arches, though we have built a few (arches are convenient in doorway construction where the scarcity of wood makes the use of lintels impossible). But in wall building we feel that we are close runners-up of Caesar and his industrious legions.

It seems that we always are building walls. Even though there are few completed walls to show for the labor. Lack of water makes construction progress by unbelievably slow degrees. We add a bit to this one and a bit to that, as the water

supply permits. Once, in a particularly long rainless period, we built an entire archway and partition wall with just the mud made each day from less than a quart of water saved from kitchen and cooking operations. Now that it's finished and whitewashed we sometimes find it hard to believe the handful-by-handful way in which it was built.

But not all our walls go up quite so slowly. A section, almost two feet thick and built of granite blocks set in mud mortar, on the southwest end of the house, made faster progress, notwithstanding the fact that a lot of the water for mud mixing had to be hauled. Of this recent bit of construction, which enables us to straighten out a long-standing, inconvenient "jiggle" in the south room, we are somewhat childishly proud. Especially in these storm periods, when we listen to the wind snarling and raging impotently at the outer face of the barrier. Elemental satisfaction, perhaps. But deep rooted. Only a little while ago we noticed Rudyard and Victoria standing with their backs to it and all their senses keyed to the beat of the tempest on the other side. They explained that they were doing that "just to feel solid an' comfortable." Which gives one some glimmer of insight into what must have been the triumphant feelings of primitive man when he first discovered how to construct dwellings that would defy the elements.

This recent wall building had an unexpected side issue which threw light upon another method of construction—that of making walls from moist earth rammed between forms. "Rammed earth" is a very old building device. It dates back at least to the times of the ancient Romans, who used it a great deal in the construction of watch-towers and forts. It is suited to a wide range of climate, but especially to dry areas like the desert. When we first began the building of Yaquitepec we experimented with it, but gave it up in favor of adobe bricks and mud. These aren't so strong, but are less work. Also we lacked the solid planking of which to build the forms.

But we did make several foundation sections by this method. In our recent building operations we ran against one of these fragments of wall which had been laid down in accord with an early plan of the house. One which long ago had been abandoned. The bit of time-seasoned "ramming"—over ten years old—was in the way of present construction and had to be removed.

And we learned from it. That little fragment of wall about eighteen inches high, a foot wide and about a foot long, provided one of the toughest problems we had tackled in a considerable time. It would not yield to tools. Crowbars and pickaxes struck sparks of fire from the mass, and bounced back at us. Dust and slivers came away. It was like battering at concrete.

Yes, "rammed-earth" is tough. We did manage to get rid of our unwanted bit of it, finally. But only because it was such a small section. Had it been of considerable area the story would have been different. However, we now can give an "unsolicited testimonial" to rammed earth construction. If you have any building to do, and are interested in this type of work, it might pay you to investigate. It's cheap and durable. The government publishes (or used to publish) a booklet of clear instructions. And I believe the University of California, at Berkeley, does also.

Pottery making hasn't got back into swing yet, at Yaquitepec. Since our return there has been much to do, and we have had little time. However, unable to keep "itching fingers" entirely away from the satisfying feel of moist clay we did make a few hasty pieces—things we needed. We were penalized for our haste by almost total failure. Not in the drying or in the decorating, but in the firing. This is always a tricky operation. And in our impatience we neglected to shelter the ware from the too-fierce heat of the flames—something accomplished in primi-

tive methods by propping up little strategic barricades of sections of old broken pots. So most of the stuff cracked. All that came from the fire intact was one plate and one cup and a little bowl. "More haste, less speed." Anyway we have chilly satisfaction in the knowledge that our predecessors, the old desert Indians, often must have felt as we did. Judging by the amount of shards, in different sections, the mortality among their pots must have been high. Higher, perhaps, than our own.

Still, though this last venture was largely a failure, we do have the one plate and the cup and the little bowl. And that is something. And we do not forget the joy that we had in fashioning the pieces from the moist clay, and in decorating them. For the chief reward lies in creation. In the striving toward a goal, rather than in the somewhat static satisfaction of a height attained. This is, or should be, the case with all work. It is particularly true of handicrafts.

For there is, about those arts which depend directly upon the hands, a fascination which is unique. Handmade things have a "soul" which machine manufactured objects lack. There is too, in such primitive home industries as spinning, weaving, pottery making and the construction of furniture, a restful close-to-nature feeling which is soothing to jangled nerves. If I ever were to direct the affairs of a colony or community I would insist that every article of domestic use, wherever possible, should be made by hand. It is by hand work that the artisan, under natural, non-commercial conditions, develops not alone his skill at his craft but himself as well. The old days, to which so many tired moderns look back with longing, hold bright pages of sincere and honest crafts and of artisans who worked for love of their work and not alone for money.

Grey shadows lean heavier upon the blusterings of the wind, and the day wanes. With the long iron poker Rider beats the dying mescal butts to a new life in a whirling tempest of sparks. There is a tinny rattle as Tanya drags out the sheet of flattened coal-oil can and sets it in place on its grid above the coals. There will be hot whole-wheat tortillas tonight, cheered with a great steaming brew of squaw tea. Tortillas toasted to toothsome savoriness upon the flattened strip of thin metal that once surrounded five gallons of kerosene. Primitive? Yes, but practical. Not upon any of the gadgets of your finest electric ranges can you cook tortillas so satisfactorily. But of course not everyone yearns to cook tortillas. The tortilla is a primitive thing, the friend and mainstay of primitive peoples and those "semi-barbarians" who prefer deserts and waste places for their habitations. Yet the tortilla is not without sterling virtues. No less an authority than that prince of desert explorers, Carl Lumholtz, has written enthusiastically of the tortilla—and of the flattened kerosene can.

HANDICRAFT

*Give me the feel of a handmade thing.
Though crude and rough it be,
A soul and purpose seem to cling,
Unto its form for me.*

*The high perfectional results
Machines can bring to bear
My instinct cherishing insults
By mass production fare.*

*A fevered "factory output" goal
Machine work may demand,
But there is greater charm and soul
To things all made by hand.*

—Tanya South.

Desert in

Gentlemen

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LETTERS...

Desert in English Camps Berkeley, California

Gentlemen:

I want to repeat a few lines Mrs. Gordon Campbell, of Southam, Warwickshire, England, wrote in appreciation for a package of Desert Magazines which I sent to a childrens' home in England: "They are most interesting; they show a part of American life which is unknown to most of us. They will be most appreciated by all who will read them. The magazines will be sent to a military convalescent hospital and most probably from there to the men of an air force station."

BEATRICE ATHERTON

Poetry in December Cover Riverside, California

Dear Editors:

I am sorry that Mrs. William McFarland (in January Letters page) can see no beauty in the December cover picture, for I was so entranced by the beauty and symbolism that a poem immediately formed in my mind. Here is what I see in the December cover:

LOOK TO THE EAST

Beyond the ruined dwelling,
Where tortured branches bend,
A burst of dawn is spelling
That night must always end.

And humble windows showing
The East on Christmas morn
Can lead our hearts in knowing
Our Savior . . . manger born.

While clouds that dot the ceiling
Of skies, above the scene,
Will leave the Desert kneeling
Refreshed, revived, and clean.

It seems to me we get enough "pretty, pretty" pictures on the well known home-type magazines. Let's keep our Desert Magazine a bit different. Let's have the symbolism, and majesty, yes, even the loneliness of the desert on all our covers and leave the merely conventional to less distinguished magazines.

CECILE J. RANSOME

Four-star Reading Denver, Colorado

Gentlemen:

Enclosed find subscription order. We desire you to know that your magazine for the year 1943 has been most sincerely appreciated. Its articles, composition and conditions of interest are Four-Star reading matter. Its TRUTH is its most inspiring feature to us.

HARVEY W. BAILEY,
Basic-Research Laboratories System

Correction for Quiz Fans Hollywood, California

Dear Editor:

In the true or false quiz, page 26 of December issue, statement 15 is, "Poison of gila monster is secreted in lower jaw." Answer is given as false.

Raymond Ditmars, who was the greatest authority on reptiles until his recent death, described the dentition of the family Helodermatidae to which the gila monster belongs, on page 89 of "Reptiles of the World." He says, "The teeth are recurved, fang-like and swollen at base; those on the lower jaw are strongly grooved on both front and rear surface. At the bases of these teeth are a chain of glands containing a venom very similar in its composition to that secreted by the poisonous snakes, and sufficiently powerful to produce death with men."

On page 13 of Desert for July, 1943, Mr. Weldon D. Woodson states, "They discovered that poison is contained in saliva secreted from the lower jaw."

W. SCOTT LEWIS

Daggett, California

Dear Miss Harris:

Have you not had protests about No. 15 in December quiz? I think the answer must have been a "slip." Here is a quotation from a well-known reptile book: "The grooved fangs are on the lower jaw, four on either branch of both maxilla and mandibular, in back part of jaw, not in front. The four separate ducts from the elongated submaxillary glands lead to the base of the grooved teeth. If seized only by the front teeth or the animal does not turn over on its back while biting, none or very little of the poison may enter the wound. Snake venom and the saliva of the Heloderma are almost identical in chemical composition."

MARY BEAL

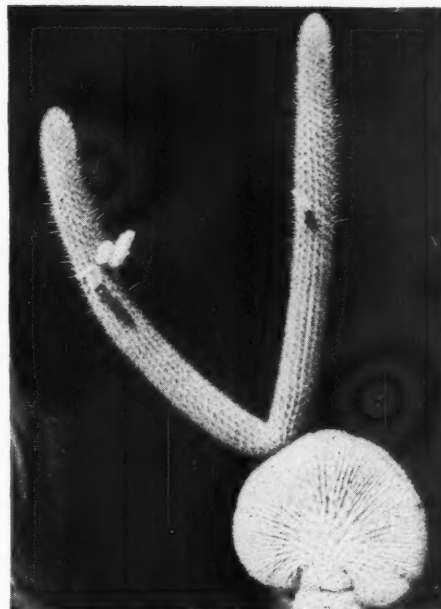
You both are right. Answer to No. 15 is true, and was a slip on part of quiz editor.—LH.

How Does Norton Allen Do It? Los Angeles, California

Dear Desert Magazine:

Please don't overlook my renewal to your indispensable magazine plus two gift subscriptions. Your publication contains many interesting articles about the desert but nothing as to the staff. Those drawings and maps made by Norton Allen deserve some consideration. How about letting us in on how he goes about his work?

MARJORIE JONES



Wm. Bright's cactus grew a V atop a crest.

More Cactus is Coming Los Angeles, California

Desert Magazine:

Am sorry you no longer have a section devoted to cactus. Nothing could be more appropriate for a magazine of the desert. Anyway your readers have not lost interest in cactus. Here is a picture of a *Cleistocactus baumannii* which took on a crest then reverted to normal growth, and in doing so formed a perfect V—a V-for-victory in nature.

WM. O. BRIGHT

Desert Promotes Social Ideals San Francisco, California

Dear Friends:

Enclosed is \$10 for two years subscription and back copies to complete my file.

Of all the many fine magazines I have enjoyed, Desert is by far the most satisfying. In every issue there is transmitted a spirit found nowhere else—a friendly spirit of sharing, the free spirit of nature, making her devotees more conscious of universal harmony and beauty. It is Mother Nature's knack of manipulating relationships that does the trick of causing us to blend our personal interests with the social by wanting to share our discoveries.

From Desert's every issue and page she speaks to us—from the splendid photographs, the field trips and their tempting maps, the page of desert poetry, Desert Refuge, news from here and there, pages on gems and minerals, the well-written historical and scientific articles, to the final good-will chat by Randall Henderson. Even Desert's ads carry their share of interesting allure.

W. A. LAUGHERY

DM Scarce in Africa . . .

Somewhere in Africa

Dear Evonne:

There is a Red Cross lady here who wheels a cartload of books through the hospital wards. I asked her yesterday for the Desert Magazine. She replied, "When Randall Henderson was here we had all the copies we needed, but just *try* to find one now!"

Charlie Rose of Bordertown has made all New Jersey "Desert Magazine conscious." On a recent visit to see him I discovered that like so many others DM is his favorite.

How are the Souths doing? Please tell them Hello for me.

LT. LEONARD B. HUIISH, A/C

Identifies Two Graves . . .

San Gabriel, California

Dear Sir:

On page 29 of December number of Desert is a photo of two graves. I first discovered these graves when on May 25, 1907, my partner and I located a lode claim about two miles southeasterly of Hidden Springs, near Robbers Roost shaft, known as Walter Scott's claims. Scott's locations were dated January 1, 1907. Both Scott's and our location were made on abandoned claims that were first located January 1, 1897.

In 1907 these graves had the appearance

of having been there a long time. Some years later I asked Shady Myrick if he knew their history. He did not know the names of the men but said they were victims of thirst. They had not died at Hidden Springs but were brought there for burial from towards Death Valley.

Two years ago Fred Rogers and I were returning from a trip to Death Valley, and while passing the graves we decided to prop up the headstones which had toppled over onto the graves. Before that the passerby seldom had noticed them.

A. F. EADS

Wants DM to Thaw Him Out . . .

c/o Fleet P. O., New York City

Dear Sir:

I have had the good fortune to come across a copy of your splendid Desert Magazine. I read it through and through and was very much impressed and a little homesick because of it. I come from Southern California and I love the Southwestern desert country. At present I am stationed in a climate which is the direct opposite—thanks to a couple of undesirables by the names of tojo and hitler. So you can see why your magazine appeals to me. Please start my subscription as soon as possible so I can thaw out a bit.

CHARLES W. FORREST, S F 3/c USN

Desert Helps Population Growth . . .

Chicago, Illinois

Dear Friends:

At last, due to the influence of friends and relatives in California and as the result of a great many hours spent in delightful reading of your grand magazine we are pulling up our roots here and are on our way to California.

MR. AND MRS. L. E. DAVIS

Taming a Roadrunner . . .

Kingman, Arizona

Dear Sirs:

I read Desert Refuge in your September issue—and I would like to tell my experience with a roadrunner. We live in a busy section of Kingman on Highway 66, near the railroad, where there is considerable traffic and noise.

One morning, after we had had a cold rain and some snow I noticed a roadrunner in the yard. He stayed quite a while, then went away but returned the next morning. I put out some food which he ate, then left but again returned the following morning. This continued all winter. He would come to the doorstep and make a cooing noise like a dove. If I did not come to the door immediately he would fly up on the window sill and look in. When I opened the window he would come in and eat pieces of meat from my hand.

MRS. ALICE NEGRIS

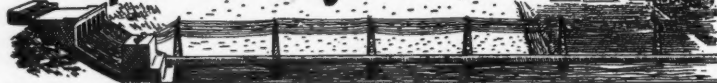
Achievement . . .

- On October 15, 1943, purchase of the electrical properties of the California Electric Power Company in Imperial Valley and the area in Coachella Valley destined to be served by the All-American Canal was completed, and Imperial Valley Irrigation District became the sole distributing agency for electrical energy in these areas.

- Thus was achieved a goal toward which the people of Imperial and Coachella Valleys have united their efforts for a quarter of a century. Full development of the power resources on the great All-American Canal now seems assured and both water and power will be put to the common usage of developing these two fertile reclaimed desert valleys.

SHARING THE BENEFITS OF WATER AND THE PROFITS OF POWER, IMPERIAL AND COACHELLA VALLEYS ARE IN TRUTH GOOD NEIGHBORS LINKED BY BONDS OF MUTUAL INTERESTS AND NECESSITIES.

Imperial Irrigation District



Use Your Own Power—Make it Pay for the All American Canal

HERE AND THERE... on the Desert

ARIZONA

Suggests Yuma as Seaport . . .

PHOENIX—Dredging the lower Colorado river to create a seaport at Yuma was among economic developments of Arizona urged by Frank Pool, pioneer businessman, at Hiram Club in December. He pointed out that the Gadsden purchase by which Arizona acquired the area south of Gila river reserved to the state the use of the lower Colorado for navigation.

Sanguinetti Incorporates . . .

YUMA — This community's oldest business has become its youngest corporation, upon completion of incorporation of E. F. Sanguinetti, Inc. E. F. Sanguinetti, who founded the business 56 years ago, remains president and director. A. O. Broussard is first vice-president and general manager; E. Francis Sanguinetti, Jr., second vice-president; Charles D. Hayes, third vice-president; Norman R. Adair, secretary-treasurer. A number of older employees have become stockholders, shares of common stock having been given them in recognition of service. It is the corporation's intention that eventually the employees shall acquire full control.

State Highway Progress . . .

FLAGSTAFF — Major highway construction undertaken in 1943 was U. S. highway 66 link between Parks and Grand Canyon Junction, a section 6.7 miles long, to facilitate transportation of military supplies and equipment. A second project completed was 2.8 miles concrete pavement on highway 66 between Flagstaff and Winslow, first link in a major improvement of highway between these two points.

Buffalo Hunt in February . . .

GRAND CANYON—Annual buffalo hunt in House Rock valley on North Rim has been set by state game department for February 12 and 13. Applications of 35 hunters and alternates were to be selected by Arizona game and fish commission, Phoenix, January 22. The herd is the only free-roaming one in existence, has furnished background for many historical motion pictures.

Half Million Population . . .

PHOENIX—Arizona's civilian population has reached more than a half million, increase of 16.9 percent for the period May 1, 1942, to March 1, 1943. The estimated 578,756 was based on registrations for War Ration book 2. Census bureau said increase was due chiefly to influx of war industrial workers.

Arizona Changes Time . . .

PHOENIX—Arizona on January 1 returned to pre-war Mountain time, which corresponds with Pacific war time. Joe Conway, state attorney general, has upheld Governor Osborn's proclamation, stating that change does not affect common carriers engaged in interstate commerce, their time having been fixed by congress January 20, 1942. Change was made especially for convenience of farmers and school children and for saving electricity.

Mesquite Growing Rampant . . .

TUCSON—Southwest forest and range experiment station, department of agriculture, has issued booklet on control of mesquite to increase grazing capacity of ranges. Kenneth W. Parker, who prepared the study, advocates control rather than eradication, pointing out that in many areas original open woodland has been converted to thickets by unrestricted growth of the tree. Practicable methods of control are suggested.

Frank L. Fish, 41, custodian of Chiricahua national monument (Wonderland of Rocks) for past seven years, died December 29 after illness of one month.

Z. B. Stiles, 42, Indian trader at Keams Canyon, died of heart attack December 14.

CALIFORNIA

National Monuments Proposed . . .

PALM SPRINGS—A proposal to set aside Mt. San Jacinto and Mt. San Geronio as national monuments has been made to President Roosevelt by Harry C. James, president Trailfinders, an outdoor organization for boys in Altadena. The two peaks rising abruptly from the desert floor to 10,805 and 11,485 feet respectively, are unique in having a climatic cross-section of North America from Alaska to Canada and in providing biologists a field for study of animal and plant life ranging from Lower Sonoran to Arctic-Alpine life zones. They also are landmarks in history of Southern California from days of De Anza and Jedediah Smith to early Mormon scouts. Present status as primitive areas under United States forest service, and in the case of San Jacinto, as state park, leaves possibility, James says, of introducing commercial enterprises. To preserve our wilderness heritage for public recreation only, James urges all lovers of outdoors to write immediately to the President, Newton B. Drury, director national park service, or to their congressman or senator.

Who Knows Lost Mines? . . .

SAN DIEGO—P. A. Bailey, 3348 Dumas street, San Diego 6, author of a book about lost mines of the southwest, is on the trail of more information about the Lost Soldier mine, sometimes called the Lost Belle McKeaver mine, and the Lost Frenchman mine. Information on these two mines will be welcomed by Mr. Bailey.

Irish Desert Rat is Citizen . . .

DEATH VALLEY—Thomas McGee, 80-year-old desert rat who has lived here most of his life and who was an employee of Pacific Coast Borax company for 25 years, at last has become an American citizen. He came from Ireland as a boy.

Imperial Valley Gets Wet . . .

EL CENTRO—December rainfall in Imperial county broke a 16-year record. Through December 19 rainfall was 2.45 inches, bringing yearly total to 3.74 inches. December, 1927, total was 2.92 inches.

A WESTERN THRILL

"Courage," a remarkable oil painting 20x60 feet, the Covered Wagon Train crossing the desert in '68. Over a year in painting. On display (free) at Knott's Berry Place where the Boysenberry was introduced to the world and famous for fried chicken dinners with luscious Boysenberry pie.

You'll want (1) A 4-color picture of this huge painting suitable for framing. (2) A 36-page handsomely illustrated souvenir, pictures and original drawings, of Ghost Town Village and story of this roadside stand which grew to a \$600,000 annual business. (3) Two years subscription (12 numbers) to our illustrated bi-monthly magazine of the West. True tales of the days of gold, achievements of westerners today and courageous thoughts for days to come. Mention this paper and enclose one dollar for all three and get authentic western facts. Postpaid. GHOST TOWN NEWS, BUENA PARK, CALIF.

29 PALMS INN

THE HOTEL AT THE
PALMS

FIREPLACE ADOBES

FOOD TO REMEMBER

SADDLE HORSES
BADMINTON

AMERICAN PLAN
Single \$6.00 up
Double \$10.25 up

Gateway to Joshua Tree National Monument
ROBERT VAN LAHR, Manager
Reservations — write 29 Palms Inn at
Twentynine Palms, Calif., or call any Travel
Bureau or Automobile Club.



Chuckawalla Prospector Dead . . .

BRAWLEY—George "Scotty" Byron, 66-year-old prospector, died at Aztec Wells in the arms of a fellow prospector December 22, making a final request to be buried under the rugged peaks of the Chuckawalla mountains where he had hunted gold for more than quarter of a century. News of his death was phoned to Deputy Coroner Seymer by "Desert Steve" Ragsdale of Desert Center who had known Scotty about 20 years.

Coachella Population Estimates . . .

INDIO—Coachella valley population according to recent ration book estimates is 12,072, announced Harry Harper, secretary Riverside county chamber of commerce. Riverside city population was given as 59,169. Banning, 5353; Beaumont, 4011; Blythe, 6283; Hemet, 7009; Palm Springs, 7435; Indio, 12,072.

Mrs. Nellie N. Coffman, founder and co-manager of famed Desert Inn, Palm Springs, is recuperating after delicate eye operation at Good Samaritan hospital, Los Angeles, in December.

The Desert Trading Post

Classified advertising in this section costs five cents a word, \$1.00 minimum per issue—
Actually about 1½ cents per thousand readers.

MISCELLANEOUS

FOR SALE—12 beautiful perfect prehistoric Indian arrowheads, \$1; 10 tiny perfect translucent chalcedony bird arrowheads, \$1; 10 perfect arrowheads from 10 different states, \$1; perfect stone tomahawk, \$1; 4 perfect spearheads, \$1; 5 stone net sinkers, \$1; 10 perfect stemmed fish scalars, \$1; 7 stone line sinkers, \$1; 4 perfect agate bird arrows, \$1; 5 perfect flint drills, \$1; 7 perfect flint awls, \$1; 10 beautiful round head stunning arrowheads, \$1; 4 fine perfect saw edged arrowheads, \$1; 4 fine perfect flying bird arrowheads, \$1; 4 fine perfect drill-pointed arrowheads, \$1; 4 fine perfect queer shaped arrowheads, \$1; 4 rare perfect double notched above a barbed stem base arrowheads, \$1; 5 perfect double notched above a stemmed base arrowheads, \$1; 12 small perfect knife blades of flint, \$1; rare shaped ceremonial flint, \$1; 3 flint chisels, \$1; 7 quartz crystals from graves, \$1; 10 arrowheads of ten different materials including petrified wood, \$1. All of the above 23 offers for \$20. Locations given on all. 100 good grade assorted arrowheads, \$3.00 prepaid. 100 all perfect translucent chalcedony arrowheads in pinkish, red, creamy white, etc., at \$10.00. 100 very fine mixed arrowheads all perfect showy colors and including many rare shapes and types such as drill pointed, double notched, saw edged, queer shapes, etc., location and name of types given, \$25.00 prepaid. List of thousands of other items free. Caddo Trading Post, Glenwood, Arkansas.

Will trade the following items for guns or obsolete ammunition: 3¼x4¼ Graphlex camera in fine condition, Heidescop Stereoscopic camera, two perfect Sioux Eagle Feather War Bonnets. Spencer Lab. Microscope 66B. with sub-stage lamp (New condition with case). Dr. Roy S. Horton, 113½ North Main St., Santa Ana, California.

NEVADA

Postwar River Development . . .

CARSON CITY—As part of a postwar economic plan, Governor E. P. Carville has outlined Nevada river improvements at a cost of almost 22 million dollars. He believes the plan not only would add much to state's natural resources but would aid demobilization period, when returning service men and women must have emergency work. Improvements would affect Muddy river and tributaries, Humboldt and Little Humboldt rivers, Truckee-Carson system and West-Walker waterways.

ION Cut-off Complete Soon . . .

WINNEMUCCA—Completion of U. S. highway 95, the Idaho-Oregon-Nevada cut-off, is assured for early next summer with opening in December of bids for oiling a 60-mile stretch in Oregon. With this final improvement Winnemucca will become the cross-roads of two U. S. highways—No. 95 extending north and south from Canada to Mexico, and No. 40, nation's leading transcontinental highway from Atlantic to Pacific.

Pine Nut Crop Harvested . . .

HAWTHORNE—Nevada's 1943 crop of pinyon nuts went on sale in December. State center of pinyon trees is Ione sector in southern Lander county and northern Nye county, now part of Toiyabe national forest. Another important section is Nevada national forest in White Pine and Nye counties, where over 200 tons of nuts a year often have been picked. National crop has amounted to 8,000,000 pounds worth about \$2,000,000.

Housing Project Starts . . .

PIOCHE—According to word received from Senator Pat McCarran, construction of project for 112 family units for miners of this district was to begin early in January. Modern houses, recreation and administration buildings, are to be constructed on 14-acre site adjoining courthouse at cost of about \$500,000.

Nevada Crop Records Made . . .

CARSON CITY—Nevada ranchers set all-time record for barley crop during 1943. Total was 984,000 bushels, while ten-year average is 384,000 bushels. State average yield was 41 bushels per acre, compared with national average of 21.9 bushels per acre. State also produced largest potato crop since 1930, with 585,000 bushels, although potato crop for 25 years prior to 1930 had been larger than current year. Average bushels per acre was 195 while national average was 139.5.

University Sets Summer Sessions . . .

RENO—Dr. Harold Brown, summer session director, has announced that University of Nevada will offer a 12-week summer school consisting of two six-week periods, the first beginning June 5, the second on July 17. Total of 15 credits may be earned during the 12-week session.

Airport to be Enlarged . . .

BATTLE MOUNTAIN—Additional \$450,000 has been appropriated by congress for another runway and other facilities for local airport, according to announcement by Senator McCarran. When completed it will accommodate the largest aircraft in the world, it is reported.

New Dam Approved . . .

LAS VEGAS—White Narrows dam on Muddy river, two miles above Moapa Valley Indian reservation, has been approved for immediate construction by war production board, it was revealed in October by state engineer Alfred Merritt Smith. Project plans include building of reservoir on reservation at cost of about \$200,000, serving 600 acres Indian land and 3200 acres for white farmers.

Nevada hunters during 1943 deer season killed 3,986 animals, an increase of 500 over total for 1942.

25 Genuine Indian arrowheads, \$1.00; Tomahawk head, .50. Cat. of Indian relics, crystals and ore specimens. Geo. Holder, Glenwood, Ark.

For Sale—To Close Estate: Chemicals and Apparatus of research chemist's private laboratory. Contact Admx—1203 West Cucharas, Colorado Springs, Colo.

Wanted to Buy—Genuine pre-historic Indian obsidian arrowheads and spears. Lynn Crandall, Box 697, Idaho Falls, Idaho.

Wanted—Quantity dried decorative weeds, seed clusters, stalks, pods, branches, desert material, etc. Write for information. E. Mann, Inc., 1845 Broadway, New York 23, N. Y.

For Sale—Beautiful Flower Pots, made with different colored rocks, 8 inches in height. \$5 each. Miniature sample 50 cents. Address Desert Novelties, Searchlight, Nevada.

LIVESTOCK

KARAKULS producers of Persian Lamb fur are easy to raise and adapted to the desert which is their native home. For further information write Addis Kelley, 4637 E. 52 Place, Maywood, California.

"Karakul Fur Sheep—America's Great Livestock Opportunity—You can be a part of this fascinating business and have your Karakuls cared for in California, by experienced ranchers. Write for details, James Yoakam, National Distributor, 1128 No. Hill Ave., Pasadena, California."

REAL ESTATE

For Imperial Valley Farms —

W. E. HANCOCK

"The Farm Land Man"

Since 1914

EL CENTRO — — — CALIFORNIA

NEW MEXICO

Pioneer Cattleman Dies . . .

CARLSBAD—"Uncle Bill" Washington, 90, who drove 15,000 cattle and 1200 horses to this area 60 years ago and founded forerunner of Circle R ranch, died at his home 40 miles southwest of here in December. He was one of the early explorers of Carlsbad Caverns.

Pueblo Suit Dismissed . . .

SANTA FE—Ending a chapter in a long period of internal strife, a civil suit filed by Pueblo de Isleta corporation and a few individual Indians against Dr. Sophie D. Aberle, superintendent of United Pueblos agency, was dismissed in December by Federal Judge Colin Neblett. Charges, which Pueblo Governor John R. Abeita stated represented the sentiments of a very small group of Isleta Indians, included too much interference with internal pueblo affairs, methods used in giving non-Indian positions in Indian service, mismanagement and waste of funds, and curtailment of free speech.

More Navajo for War Work . . .

GALLUP—On basis of questionnaires to all Indian service superintendents and Indian traders on Navajo reservation, it is estimated that there are between four and five thousand Navajo capable of taking war jobs off the reservation. Main reasons this supply has not been used are family ties and responsibility for sheep and crops, importance of ceremonial dances and songs which the Navajo would miss, possession of money already earned on jobs they have quit, sickness, and lack of information regarding available jobs.

Lion Hunter to Save Deer . . .

SANTA FE—To stop killing of deer and mountain sheep in Sandia mountain region by lions, state game department has assigned Kenneth Shellhorn, mountain lion hunter, to the area. The herd of mountain sheep was planted in the Sandias by the department.

Too Few Doctors in State . . .

SANTA FE—It has been disclosed, by figures compiled for senate during consideration of public health service bill, that New Mexico has but one doctor for each 2450 patients. State total was 200 compared with 310 in 1942. Only Nevada, with 90, has fewer physicians than this state.

Indian Traders Elect . . .

GALLUP—At a two-day session here in December, United Indian Traders re-elected all officers: Jack Cline, Fruitland, president; Howard Wilson, Gallup, and Marshall Drolet, Tohatchi, vice-presidents; M. L. Woodard, secretary-treasurer. Committee of eight was named to study post-war development of hand-made Indian jewelry trade and possible revision of standards.

Rabbit Hunt on Main Street . . .

ROY—Residents of this town need not hike out in the fields and waste ammunition hunting rabbits, for the rabbits are coming to town. "Record" says it is a common sight to see townsmen and dogs engaged in a rabbit chase down main street. Heavy blanket of snow covering countryside was cited as reason for jack-rabbit invasion.

Horse-and-Buggy Bus . . .

CANJILON—This remote Rio Arriba county community is seeking communication with outside world by horse and buggy. After one bus broke down on the not-so-good road from the main highway, Chama Valley bus line asked state corporation commission for authority to use horse and buggy to carry passengers and mail over the route.

Gallup's 23rd Inter-Tribal Indian Ceremonial has been set for August 11, 12 and 13, 1944.

UTAH

City Budget Increased . . .

SALT LAKE CITY—Municipal budget for 1944 has been set at \$4,496,235, an increase of \$65,592 over 1943. Budget is predicated on a 16-mill levy (\$1.60 per \$1000 assessed valuation). Commissioners and auditors hope rate can be cut to 15 mills by late summer, as was done last year.

Hospital is Experimental Center . . .

BRIGHAM CITY—Bushnell general hospital has been named one of four general army hospitals in this country to carry out intensive clinical studies of malaria, it has been disclosed by Col. Robert M. Hardaway, commanding officer. In service only 15 months, it already has been designated one of five amputation centers, one of seven plastic and maxillo-facial surgical centers, army's first proving ground for penicillin and one of few neuro-surgical centers. A new approach to treatment of malaria, "America's wartime public enemy No. 1," is being used, said Lt. Col. James S. Sweeney, chief of medical service.

Junior Ski Tournament Set . . .

ALTA—Intermountain junior four-way combined ski tournament has been set for February 12-13. Events will include downhill, slalom, giant slalom and jumping. Meet is limited to skiers 16 years and younger. The Snow Cup giant slalom, usually staged in December, was tentatively set for January 29.

Plans 100 Utah Airports . . .

SALT LAKE CITY—Five-year plan for improvement of 50 Utah airports and construction of 50 more has been outlined to regional officials of civil aeronautics administration. Joe Bergin, state aeronautics director, said program calls for 20 new airports a year, cost to "run into millions."



"SUNLIGHT ON THE MOUNTAIN" . . .

Desert artist Lon Megargee's color lithograph of Camelback Mountain in natural red-gold and smoky azure of Arizona. Each 16x12 print signed by the artist and printed on white mat suitable for framing. A colorful bit of the Southwest for your living room, a beautiful gift for your desert-minded friends. \$3.00 postpaid.

California buyers add 2½% tax.

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SPECIAL

10-lb. package 300 (FF) grit for use with Old Miser only and one jar Old Miser Lapping Compound, all for . . .

\$3.50 F.O.B. Redlands

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ROCKHOUNDS . . .

We have a large stock of Cabinet specimens, Gem material, Cut stones, Mineral books. We want to buy good gem material and specimens. Come and see us and join our Rockhound Colony.

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Bayfield, Colorado

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JOHN W. HILTON, Owner

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AMATEUR GEM CUTTER

and polishing equipment. Leland Quick, who conducts this department, is former president of the Los Angeles Lapidary society. He will be glad to answer questions in connection with your lapidary work. Queries should be addressed to Desert Magazine, El Centro, California.

By LELANDE QUICK

James Forbes of Lynwood, California, has taken several prizes for novelties at gem exhibitions and many folks have wondered how he made his mantel clocks of onyx, lighted geodes, large spheres, button sets, etc. Mr. Forbes is an oil well driller and he has applied oil well drilling principles to massive lapidary work.

The coring machine frame, illustrated at right, is made from 2x3 boards. It stands 36 inches high and is 29 inches wide, but size is optional. The shaft (2) is made of 1/2-inch pipe and with a 2-inch swedge nipple (1) on the top into which a mixture of mud and grit is poured by hand. The bottom of the shaft is bushed to 3/4-inch pipe (5). The bearing (4) is made from 1-inch pipe, filled with babbitt between it and the 1/2-inch shaft. Adjustable clamps (6) hold any size rock. An 8-inch pulley (3) is fastened with an Allen set-screw for adjustment. A pan (7) is filled with a mixture of mud and No. 80 or No. 100 grit, and a can on a stick is used as a dipper to transfer the liquid abrasive to the revolving nipple at the top (1). The shaft revolves about 300 RPM and its own weight drives it through the rock as the abrasive spills over the rock into the pan (7) for re-use.

An extra 6-inch pipe (9) is on hand for swedging to the shaft for drilling large blocks fastened to another adjustable clamp (8), such as clock mounts. The cores from larger rocks can be cut into large spheres while the cores from geodes or smaller rocks can be sliced into button sets on the diamond saw.

By having an assortment of pipe sizes a lapidary is prepared to drill any size hole and Mr. Forbes' arrangement is simple, inexpensive and highly efficient. With the exception of the motor it can be assembled even in these times from any scrap yard.

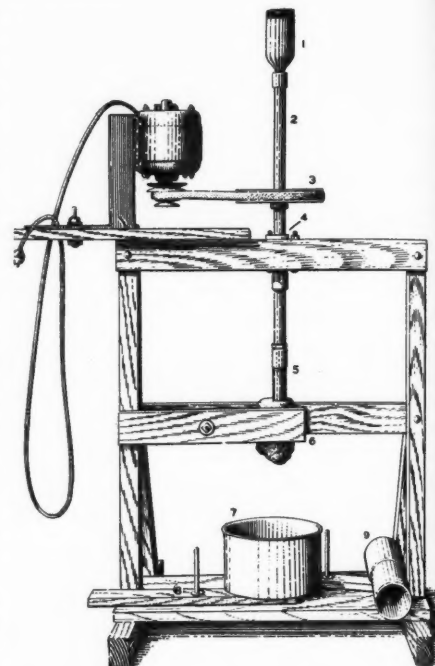
Many amateur lapidaries have little idea of the weight of a carat and its relation to the ounce. In last April's Desert Magazine I said an ounce was 141.75 carats which was according to the old scale but the "metric carat" of 200 milligrams is now the universal standard. Since there are 28 grams to the ounce, or 28,000 milligrams, an ounce is therefore exactly 140 carats. Gems used to be weighted with seeds but different seeds were used in different gem cutting centers so that the carat varied slightly in widely separated gem marts. The diamond carat is divided into 100 parts, each of which is called a point so that a 3/4 carat diamond is termed a 75 point stone.

The gold karat (note the "k") is something else. Pure gold is 24 gold karats fine and it is too soft for jewelry. It must have a hardening alloy. One karat is therefore 1/24 part and 18 karat gold is 18/24 or 75 per cent pure gold or 3/4 gold and 1/4 something else.

Not since the first issue of this page in the August, 1942, issue of Desert Magazine have I discussed the term "lapidary." In spite of the continued use of the term in advertisements and occasionally in magazine items it is incorrect to use the terms lapidist or lapidarist when lapidary is intended. A lapidist or a lapidarist is a connoisseur of gems and skilled in his knowledge, but a "gemologist" has succeeded the use of the older words. Seldom does a lapidarist know how to cut a gem.

A diamond cutter is just that—skilled in the methods of cutting only the diamond whose physical properties are different from any other gem. A lapidary is a person who cuts and

This page of Desert Magazine is for those who have, or aspire to have, their own gem cutting



polishes all gems other than diamonds while a gem cutter (as defined at Idar-Oberstein, the great gem cutting center in Germany) is a person who cuts stones of a hardness no greater than 7 and who uses water power to do it. When he uses carborundum wheels and electrical power then he is promoted to the "lapidary" class. We amateur gem cutters in America are therefore lapidaries but seldom do we earn the distinction of being a lapidarist or a gemologist, which requires years of scientific study.

Perhaps you missed the exchange idea last month. Briefly, if you have any item of lapidary equipment for sale, or surplus materials you unselfishly want to get into the hands of people who need them, record them with your asking price and send the information to Mr. Elphage Mailloux, 9536 Otis street, South Gate, California. If there is something you wish to buy register your wish with Mr. Mailloux. In both cases send him postage for replies. He will attempt to bring buyer and seller together and it is a free service. If you are tired of the hobby why not sell your equipment to someone who really wants to cut and can't get it because of the shortage? Remember, this service is for the exchange of equipment only—not rocks.

DID YOU KNOW—

- Sterling silver is 92 1/2% silver and 7 1/2% copper while coin silver is 90% silver and 10% copper. American coins are of coin silver while British coins are sterling.
- 18 karat yellow gold is 75% pure gold and 12 1/2% each silver and copper.
- 18 karat white gold is 75% pure gold, 17% nickel, 2 1/2% copper and 5 1/2% zinc.
- 18 karat green gold is 75% pure gold, 22 1/2% silver, 1 1/2% nickel and 1% copper. Green gold, therefore, contains the greatest value in metal.
- Any gold less than 12 karats (half gold) is not properly considered gold.

LIBERTY SEARLES

Richard Wilmington tion that a cember 2nd Searles, in covered bor industry in borax refin product ove 20-mule tea from San P

BLUEJACK NON-SKI

Semi-pre good advan warships, to bluejackets flight decks when the weather. C crushes garri to coat the ships. They mixing the sistant plas capable of s tleship or c plastic can spray gun, the wet wea

WHITE F IN NEW

Among th by America great effect containing becomes dan fire. Then dangerous ever, must white, dry a bursting instantly bu Japs seem form of ph or fox hole tected.

DIAMON WEIGHT

A carat, p precious sto grains avoi carats wei gram. A ca points. The is expressed most exact lost stones edge of the even fractio stolen by r identified, because they ments and

GEMS AND MINERALS

ARTHUR L. EATON, Editor

LIBERTY SHIP NAMED FOR SEARLES, BORAX PIONEER

Richard W. Emery of Calship news bureau, Wilmington, California, releases the information that a 10,500-ton liberty ship launched December 2nd was christened the S. S. John W. Searles, in honor of John W. Searles who discovered borax in 1873, and founded the borax industry in United States. Searles built a crude borax refinery at Searles lake and hauled the product overland to San Pedro with the famous 20-mule team. He shipped the borax by boat from San Pedro to San Francisco.

BLUEJACKETS WORK ON NON-SKID JEWEL DECKS

Semi-precious stones now are being used to good advantage on the decks of United States warships, to steady the feet of rapidly moving bluejackets in time of battle, and to surface the flight decks of great carriers to prevent accidents when the planes take off in wet or foggy weather. Goodyear tire and rubber company crushes garnets to a coarse grain, and uses them to coat the decks and gun emplacements of warships. They make this "Dektred" covering by mixing the garnet gravel with a special fire-resistant plastic or synthetic resin binder that is capable of sticking to the smooth deck of a battleship or carrier. The mixture of garnet and plastic can be spread either with a trowel or spray gun, and renders wet decks much safer in the wet weather so common in the tropics.

WHITE PHOSPHORUS USED IN NEW HAND GRENADES

Among the newer deadly weapons being used by American soldiers against the Japs, with great effectiveness, is a bomb or hand grenade containing white phosphorus. Red phosphorus becomes dangerous only when exposed to open fire. Then it catches fire and burns in a very dangerous manner. White phosphorus, however, must be kept wet or airtight. When the white, dry substance reaches the open air from a bursting grenade, regardless of outer heat, it instantly bursts into livid, blistering flame. The Japs seem to be particularly "allergic" to this form of phosphorus, and pile out of their shell or fox holes instantly, when the fumes are detected.

DIAMONDS RECOVERED BY WEIGHT IDENTIFICATION

A carat, the standard used in weighing most precious stones, weighs 205 milligrams, or four grains avoirdupois, or 3.21 grains troy. Five carats weigh slightly more than one metric gram. A carat of diamond is divided into 200 points. The weight of fractions of carats often is expressed in these points. Each point is almost exactly one milligram. Identification of lost stones often depends on a previous knowledge of the exact weight in carats, points, and even fractions of points. A very valuable stone, stolen by robbers in Mexico, was recovered, identified, and restored to its owners recently because they had an exact record of its measurements and weight.

NU-LITE

R. E. Hoffman, metallurgist of Boise, Idaho, announces discovery of a new metal 40 percent lighter than aluminum which he calls nu-lite metal. He says that nu-lite can be manufactured from metals now produced in quantities in the western states. Its metallurgical formula is secret. Nu-lite, it is claimed, does not rust or corrode. It can be made any tensile strength up to 185,000 pounds to the square inch. It can be made malleable or harder than steel and absolutely bullet proof. Cost of manufacture is from five to 30 cents per pound according to type of material produced.

Did You Know That Hematite . . .

- 1—Is iron trioxide?
- 2—Varies in hardness from 6.5 down to one?
- 3—Is found in most countries?
- 4—Is found in Cumberland, England, as "kidney ore"?
- 5—Scratches red?
- 6—Ranges in color from red to black?
- 7—Has a specific gravity of 5.2?
- 8—Is cut and sold as both "Alaska black diamond" and "Mexican black diamond"?
- 9—Sometimes has micaceous cleavage?
- 10—Furnishes color for rouge, lipstick and cosmetics?
- 11—Is the red color in rubies, jasper, etc.?
- 12—Is used to color red paint?
- 13—Sometimes forms long, slender, curved needles?
- 14—Has metallic luster?
- 15—When exposed to extreme heat and pressure becomes magnetic?
- 16—Causes bright red colors in the Grand Canyon, Bryce canyon, etc.?
- 17—Is the chief source of United States steel and iron supply?
- 18—Sometimes forms radiating masses?
- 19—Is sometimes found in the desert in masses weighing from a few grams to hundreds of pounds?
- 20—Is the most common American iron ore?
- 21—Averages 70 per cent iron?

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In our house you will find
Trash and Treasure of every kind.
Choose with care the things in quest.
Old things with memories seemeth best.
From Grandma's mantle o'er the hearth
Come trinkets cherished since our birth.
Pattern glass and china old
Bring to collectors joys untold.

GEM STONES

In nature's magic workshop
Behind an emerald screen
Are forged precious jewels
To crown a Fairy Queen.
You'll find them at our Hobby House,
A karat, slab or ton.
Gorgeous rainbow colors—hues of setting sun.
Cabinet specimens, gems in the rough,
Thunder eggs and geodes that really do their stuff.

THE GREATEST COLLECTION OF SUN-COLORED GLASS IN THE WORLD

Says One Rockhound to Another—"Come Over and See Us Sometime"

COLORFUL MINERALS

ZIRCON

Zircon, in tiny crystals, is scattered all over the earth as colored specks in granite and other common rocks. Minute but very beautiful crystals are found in the sands of the Florida coast. These crystals are usually square prisms with low, four sided pyramids on each end. The color ranges through red, yellow, reddish brown, green, blue, grey to almost black. The reddish crystals are known colloquially as hyacinth. Colorless, red, blue or green stones are popular as gem stones, the deep blue stones bringing a very high price. The hardness of 7.5 and high index of refraction make them very desirable. Gem zircons of many colors occur in the U. S. A., Australia, Ceylon, India, France, Siam, and other countries. No collection is complete without zircons in all colors, both as crystals and as cut and polished gem stones.

GEM MART

ADVERTISING RATE

5c a Word — Minimum \$1.00

INTRODUCTORY OFFER—One dollar each lot. Five all different Fluorescent Agates—polished. Thirty rough Mexican Opals. Fifty nice pieces Turquoise. Twenty different polishing specimens. Postage ten cents. Minerals and gems on approval. DR. RALPH MUELLER, Professional Building, Kansas City, Missouri.

AGATES, Jaspers, Opalized and Agatized woods, Thunder eggs, polka dot and other specimens. Three pound assortment \$1.50 postpaid. Glass floats, price list on request. Jay Ransom, 3852 Arboleda Ave., Pasadena 8, Calif.

Tourmaline matrix, in quartz crystals, \$1.00 to \$30.00, tourmaline pencils, 50c to \$5.00, Essonite garnet-green-clusters, 50c to \$3.00, unique specimens. Sagenite agate, \$1.00 to \$4.00, specimen rough nodules. Gem list 10c. Return specimens if not satisfactory. The Desert Rats Nest, 2667 E. Colorado St., East Pasadena, Calif.

Swisher Rocks and Minerals, also Corals, Shells, Statues, etc. We also buy mineral species and woods. Must be good. Swishers, 5254 So. Broadway, Los Angeles 37, Calif.

20 mixed fossils for a dollar bill. 100 ancient Indian arrowheads \$3.00. 10 tiny bird arrowheads \$1.00. List Free. Lear Howell, Glenwood, Ark.

\$2.50 brings you prepaid six rare and beautiful crystallized Arizona minerals. Vanadinite, Diopside, Wulfenite, Willemite, Chrysocolla, Azurite. Specimens 1 1/2 x 2 or larger. Wiener Mineral Co., Box 509, Tucson, Arizona.

100 Jewelry Stones removed from rings, etc., \$2.00. 12 articles of Antique Jewelry, rings, pins, etc., \$3.00. B. Lowe, Box 311, St. Louis, 1, Missouri.

CABOCHON CUTTERS with our unnamed mixture of good cutting material sawed ready to shape cut and polish you can finish several fine stones. 25 cents for two ounces and with money back guarantee. Gaskill, 400 North Muscatel, San Gabriel, Calif.

News of Rocks and Minerals every week in "Popular Hobbies," big new newspaper for collectors. \$1.00 per year, sample copy 5c. Box 710, Los Angeles 53, California.

AMONG THE ROCK HUNTERS

1944 officers of Long Beach mineralogical society are: Elvin S. (Jim) Bond, president; Ralph E. Houck, vice-president; E. F. (Bill) Carlson, secretary; J. E. Webb, treasurer; Milo Potter, member of executive committee. December board meeting was held at the home of President Bond, 1521 Gardenia avenue. Regular meeting place of the group is the 9th Hole clubhouse. At pot luck Christmas party members brought rock gifts for exchange. Several door prizes were awarded.

Paul Van der Eike, editor of Mineral notes and news, official publication of California federation of mineralogical society, has changed his address. Communications should be sent to Rt. 5, Box 177, Bakersfield, California.

Fifty-one of the 104 active members of Sequoia mineral society were present at the regular November meeting.

Isabel Westcott and Elmer Eldridge have arranged an exhibit of strategic minerals to be displayed in the geology department of Fresno state college.

Montana claims first discovery in United States of a deposit of quartz crystals acceptable for manufacture of war radio equipment. James Lozeah and J. L. Waylette, of Paradise, Montana, located the deposit. Crystals are worth ten dollars a pound. Production is under supervision of United States bureau of mines.

Los Angeles mineralogical society picnicked and field-tripped January 9 at Sycamore grove and Southwest museum. They also visited the Lummis home and old Spanish adobe.

Membership in Mineralogical Society of Arizona reached the 100 mark November 5, when Dr. J. A. Lentz joined the group. The juniors number 12. Meetings are held first and third Thursdays at Arizona museum, 1002 West Van Buren street, Phoenix. Society maintains an exhibit in the chamber of commerce window. Current display consists of a selection of ores of aluminum and type specimens of the ores of the principal alloy metals magnesium, chromium and copper; also examples of fabricated aluminum produced by plants in the Phoenix metropolitan area.

Los Angeles mineralogical society celebrated the holiday season with a party at West Ebell clubhouse, December 16. Speakers and entertainers were volunteer members. They had a grab bag and swapfest. President Richard Lehman has appointed Ben Schwartz historian to record the progress of the society.

DESERT QUIZ ANSWERS

Quiz on page 14

- 1—Souths were searching for new homesite, with better water supply.
- 2—Meteors may be found nearly anywhere.
- 3—Ross Santee.
- 4—Laguna pueblo is on bank of San Jose river.
- 5—Starlite is trade name for artificially colored blue zircon.
- 6—About 25 inches.
- 7—According to legend, Holy Twins destroyed mythical monsters, thus saving the world from evil.
- 8—Highgrading, or stealing rich ore from mines by numerous clever devices, is condemned in the best circles.
- 9—Quartzsite.
- 10—Home of giant ground sloth. No human remains have been found there.
- 11—Conditions must permit bacterial growth.
- 12—Skin of newly-hatched Roadrunners is oily-black, with a few stiff white hairs.
- 13—Highway 80 would take you through Tombstone.
- 14—On plateau northwest of Flagstaff.
- 15—Chrysocolla is silicate of copper.
- 16—Five-story structure in Arizona was built by unknown prehistoric Indians.
- 17—Sand consists of small pieces of rock of any kind not more than 1.5 millimeters nor less than .05 millimeter in diameter.
- 18—Bean People is English version of Papago name for themselves—*Papab-oo-tam*.
- 19—Jet occurs in veins of coal.
- 20—Lee's Ferry is on Colorado river.

INDIAN RELICS, Curios, Coins, Minerals, Books, Old Buttons, Old Glass, Old West Photos, Weapons, Catalog 5c. Lemley Antique Store, Osborne, Kansas.

I have sold my place near Banning known as "Desert Gems" and am opening a new place. A large building on D and 3rd St. in La Verne, California, 3 miles north of Pomona, where I will be happy to welcome all old friends. Geo. W. Hilton.

ROCK COLLECTORS, ATTENTION! — A COLORFUL COLLECTION — 5 slabs Cuttables, \$1.00; Sky Blue Fluorite Xls., \$1.00; Azur-Malachite, \$1.00; Chalcantite, \$1.00; Amethyst Phantom Xl., \$1.00; Iron Pyrite and Qtz. Xl. group, \$2.50. Realgar and Orpiment Xls. on Calcite, \$2.00; Purple Dumortierite Radiating Xls., \$1.00; White Aragonite Stalactites, \$1.00; Silky Asbestos, \$1.00; Vanadinite Xls., \$1.00. Free polished specimen. All the above postpaid \$8.00. December offer still good. The Rockologist, (Chuckawalla Slim), Paradise Trailer Court, 627 E. Garvey Blvd., Garvey, Calif.

Water Clear Quartz Crystals of the finest quality, single points from 5c to \$2.50 each. Clusters or groups from 25c to \$25.00 each. Beautiful Cabinet specimens at \$5.00, \$7.50 and \$10.00 each. Wholesale and retail. Satisfaction or money back guarantee. Delivery charges extra. Jim Davis, 303 Ward, Hot Springs, Arkansas.

50 Genuine and Synthetic slightly damaged stones assorted \$7.50. Genuine Zircons blue or white 3 for \$3.75. Twelve genuine Cameos or Opals \$2.50. B. Lowe, Box 311, St. Louis, 1, Missouri.

Minerals, Fossils, Gems, Stamps, Coins, Pistols, Glass, Bills, Indian Relics, Bead Work. Catalogue 5c. Vernon D. Lemley Curio Store, Las Cruces, New Mexico.

Montana Moss Agates in the rough for gem cutting \$1.00 per lb. plus postage. ELLIOTT'S GEM SHOP. Petrified Picture Wood and Moss Agate Jewelry Hand Made in Sterling Silver Mountings — Rings, Bracelets, Necklaces, Brooches, Tie Slides, etc. Mail orders filled anywhere in U.S.A. 25 Jergins Arcade, Long Beach 2, Calif.

Tacoma agate club, Tacoma, Washington, announces that the following officers were elected December 2: Aubrey A. Porter, president; Tom Morgan, vice-president; Bertha Reiter, secretary; Juanita Savitsky, treasurer; Art Farrell, director. The club meets first and third Thursdays at Plymouth Congregational church South 45th and Park avenue. Visitors are welcome. The new president's address is 6515 South Tacoma avenue, Tacoma 4, Washington.

Thomas F. López, Fresno attorney, gave an eyewitness account of Mexico's new volcano, El Parícutin, at December 7 meeting of Sequoia mineral society, held in Parlier.

Imperial Valley gem and mineral society tested their wits with some clever rock games devised by Mary Jane Neal, secretary, at December meeting held in the home of Mr. and Mrs. Harry Seaman, Holtville. First prize, a sagenite agate heart, went to Eva Wilson. January meeting took place at the Searcy residence in Holtville. The group hopes that with the lifting of dimout regulations meetings may be resumed in the courthouse in El Centro, a more central location.

Rocky Mountain federation of mineral societies, like many other similar organizations, has found it impractical to attempt holding its annual meeting and election of officers. However, in order to keep the organization intact and active, circular letters were sent to each of the 14 member societies. In this way, officers for the following year were chosen. President Arthur L. Flagg, of Phoenix, Arizona, was re-elected and filled the other offices as follows: Mrs. Charles W. Lockerbie, Salt Lake City, Utah, vice-president, and Humphrey S. Keithley of Phoenix, secretary-treasurer.

W. Scott Lewis' December bulletin has an article on the mystery of the missing electron, dealing with fluorescence. He also reports that he has obtained some specimens that apparently are franklinite, but which do not come from New Jersey. The ore was found in one of the houses in Little Tokyo, Los Angeles.

Copper was the subject discussed at December 3 meeting of Orange Belt mineralogical society, held at San Bernardino junior college. Mrs. Peter W. Burk talked on the use of copper and industrial uses of copper in the United States. E. C. Cline told the story of copper. January topic was calcite.

Pacific mineral society, inc., enjoyed a Christmas party with a grab bag (contents furnished by members) at Hershey Arms hotel, December 12. Three members gave short informal talks: Roy Martin, on volcanic gases; Harold Eales, housing a collection; and Roy Correll, new developments in concentration.

BIRTHSTONES

American national jewelers' association adopted the following "official" list of birthstones in August, 1912:

1. January—garnet.
2. February—amethyst.
3. March—bloodstone or aquamarine.
4. April—diamond or sapphire.
5. May—emerald.
6. June—agate, pearl or moonstone.
7. July—ruby.
8. August—sardonyx or peridot.
9. September—sapphire or chrysolite.
10. October—opal or tourmaline.
11. November—topaz.
12. December—turquoise or lapis lazuli.

Cogitations . . .

Of a Rockhound
By LOUISE EATON

Rockhounds is beginnin' to wonder if there'll be eny specimens left in their favorite field-trippin' territory after the duration is over. Shurely so many soljers can't all be unrockhouns. Therz undoubtably at least sum hammar houns amongst 'um. Practice bommings, too, isn't 'xactly what rockhouns'd order for their precious hunting grounds. Only thing to do is wait. Good news is that civilians may purchase jeeps when peace cumz.

Readin' Desert Magazine is sortta like eatin' a nawfully good dinner. Yu jus wades in 'n injoys it without eny thots about the wurk back uv it. But both takes lotsa preparation ahead uv time. Not only duz the eatables have to be cooked 'n fixed up for the meal, they has to be grown 'r dug 'r concocted 'n gathered together. Consider sage 'r salt 'r turkey 'r butter. Desert's articles 'n stories has mutch purposive effort behind um too. To say nuthin' about problems uv paper, printin', transportation, etc. But everywun appreciates Desert when it arrives.

DESERT MOSAIC

By JEANNE HOWARD
Reno, Nevada

The garnet, the ruby, the emerald are the stones in a streambed dry,
The turquoise and matrix of piled pearl becomes the vaulted sky;
The mossy green of the junipers inlaid against salmon sand,
The chameleon sage of the desert in this ever-changing land.
Silver-tipped in the moonlight, amethyst in a dying sun;
Dusty green with a copper sky—and the desert mosaic is done.

Parlier lapidary class under Chris Andersen has started recently, and meets Monday and Thursday evenings from 7:30 to 9:30.

December mineral notes and news continues its articles on fossil woods of California, as well as its studies in crystals.

It has been estimated that aluminum constitutes 73 per cent of the earth's crust.

San Fernando valley mineral society has postponed its usual excellent mineral show until war conditions moderate to the extent of giving members more time and gasoline.

Lassen rocks and minerals society, Susanville, California, is now a member of the California federation of mineralogical societies. George M. McDow, Jr., is secretary.

JADE AND "MEXICAN JADE"

Much of the costume jewelry sold both in this country and in Mexico as "Mexican jade" actually is calcite colored green. The color often is quite different from that of true jade. There is true jade for sale in the United States and a small amount for sale in Mexico, but most of the Mexican variety is calcite. A simple test is hardness. True jade is seven hardness while calcite is only three, easily scratched with a pocket knife. Also a drop of hydrochloric acid effervesces on the calcite, but not on jade.

December Sequoia bulletin continues the history of Sequoia mineral society. A previous chapter was published in bulletin 23, May, 1940. Another installment is promised soon.

Mojave Desert Gem and Mineral Shop . . .

On Highway 91, 11 Mi. East of Barstow
One Mile West of Yermo, California
E. W. SHAW, P. O. Box 363, Yermo, Calif.

Specials for February . . .

Here's something for you cutters while you are shut in for the winter—

1. **PALM ROOT**—This palm root is from the old finds at Yermo. And if you know palm root you know that the Yermo material is among the best.
75c per Lb.

2. **NODULES**—Our recent nodule offers were so popular that we are offering further selections from our nodule stock. Beautiful Chocolate Mtn. Black Nodules, or odd types from Idaho.
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SPECIAL OFFER—Our Chocolate Mtn. nodule of cutting size along with one beautiful polished half—\$2.00.
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UNUSUAL AND RARE CUT GEMS--

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Spinel of all kinds. Cabochons in Turquoise, Emeralds, Azur-Malachite, Golden-Starolites, Swiss-Lapis, etc.
All kinds of Scarabs.

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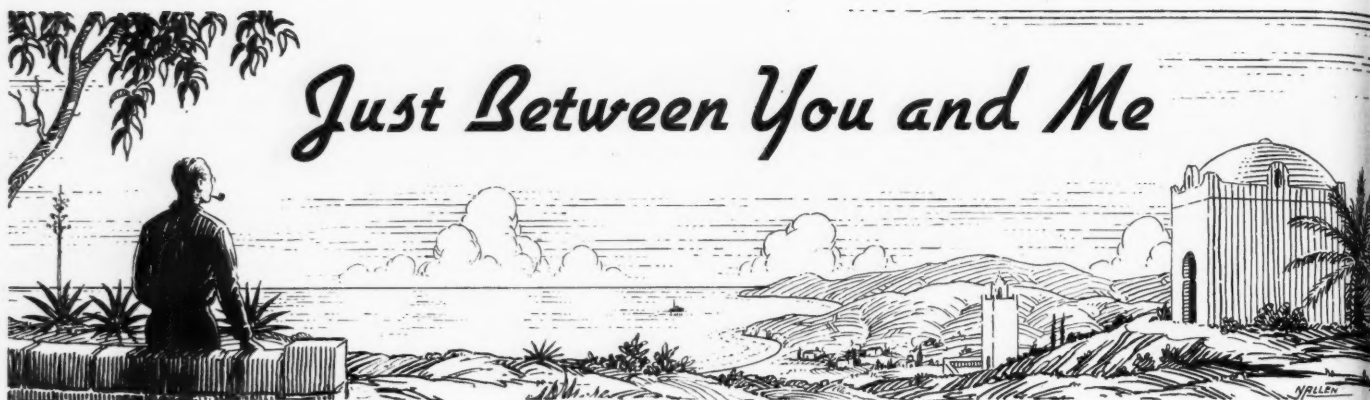
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By RANDALL HENDERSON

WITH THE ALLIED FORCES IN AFRICA—I have just returned from the Post Exchange where I drew my weekly luxury rations—soap, candy, gum, smokes, etc. We have ration cards here, but they are not as complicated as the ones issued in the States. The stock of purchaseables is much more limited here. Each week we are entitled to two packages of gum, our choice of a peanut or chocolate bar, a cake of soap, a half dozen razor blades, one handkerchief, one pair of socks, eight packages of cigarets or their equivalent in cigars or pipe tobacco, and enough dental cream, shaving soap and other essentials to carry us through to next ration day. We get all we want of all items except candy. The most popular Christmas packages that came overseas were those containing candy and cake.

Human needs really are quite simple when reduced to essentials. I have been living for 15 months with all my personal equipment, including clothes and a few books, contained in a Val-pack that weighs less than 60 pounds. Civilians, in the post-war days, also are going to have to learn the art of traveling light as airplanes become more and more the accepted mode of transportation.

* * *

At the mess hall the chattering French girls who formerly waited table have been replaced by Italians. Formerly these Italian boys were prisoners of war, but now they have much more liberty than is generally accorded a prisoner. They do not need guards. They like their job too well.

They were slow and clumsy at first, but they made up in willingness what they lacked in skill. They cannot understand English, but they both talk and understand that universal language which draws people together more than words—a ready smile. It is hard to get out of patience with a waiter who grins when he brings you tea instead of coffee. The mimeographed menus are in both English and Italian—but I suspect these boys would rather have us give the order in English. They are eager to learn our language. Judging from reports from the home front, these rough peasant lads probably are giving us better table service than most Americans at home are getting these days.

* * *

One of my Christmas packages contained Henry J. Taylor's *MEN IN MOTION*. He raises the question: Why should Europe complain of over-crowded population when close at hand is Africa with its enormous undeveloped resources? That question has occurred to many of us who have flown over the vast expanses of this fertile continent.

With the exception of South Africa, very little real colonization has been done on this continent. The possibilities are almost beyond imagination. But let us hope that if and when the white people of post-war Europe start a migration this way it

will not enslave the native population. For the most part, the black men in the great fertile region that extends south from the Sahara have a native endowment of intelligence that entitles them to be co-workers in any future scheme of empire, rather than underpaid laborers for a financial aristocracy.

* * *

December issue of *Desert* just arrived, and I want to send greetings to the magazine's new war correspondent in the Pacific theater. I refer of course to Corporal Rand, the junior member of the desert tribe of Hendersons. Rand was on *Desert*'s staff before he joined the Marines—and I hope he'll report for duty again when the shooting is over. He did not contribute much writing during his previous hitch at the *Desert* office. But after reading his page in the December issue, I am ready to promote him to the editorial department. I hope he will be sending more copy from the Japanese front.

In the meantime, I know that other desert folks will share my appreciation for the fine way in which Lucile and Bess and Evonne and the other members of the staff are carrying on the traditions of *Desert* in the home office.

* * *

René, the little French sergeant who has been working at the desk near mine for several weeks, was all smiles today. He received orders to report to an airfield to resume the instruction as an army air pilot, interrupted when he left France in a hurry following the German invasion. France is his home and he shares the impatience of all loyal Frenchmen to go back there and drive out the Boches. Somewhere on this side of the Mediterranean he and numberless other French patriots are drilling hard and burning with zeal to regain their homes and restore the prestige of France. When I ask René what will be the fate of the Collaborationists of Vichy, he shrugs his shoulders and draws his forefinger across his neck in a way that leaves no doubt as to what he would do with them if it were left to him.

* * *

During the past six months I have been drenched with more rain than I saw during the previous 30 years on the American desert. The Fates seem determined to give my desert hide a thorough soaking for a change. At three successive stations, I arrived just in time to witness the peak of the rainy season. During the late spring months I caught the downpour on the south side of the Sahara. Then I moved to the west side of the same desert at the peak of the mid-summer shower season. And finally I arrived here on the north side of the Sahara for the winter and fall rains. It looked very very dry when I flew across the Sahara, but I can testify that there is no lack of rainfall on its fringes. I hope I do not emerge from this war a web-footed desert rat.



MESQUITE ROOT GLOW MEMORIES

By T/SGT. PAUL WILHELM
Somewhere in England

West of the San Berdoos
The desert and the sky,
East of Jacinto range
The wind—and coyote's cry.

Where golden eagles nest
And pearl-grey Bighorns dare
The violet peaks look down
Through crystal evening air.

Oasis lamps unlit,
A cold hearth's darkened grave,
An ember 'neath the ash
That we must die to save.

Now only dreams are there,
Old palms, a sandy rill
As purple tints change guard
At evening—on Squaw Hill.

West of the San Berdoos
The desert and the sky,
A soldier's heart still hears
The wind—and coyote's cry.

MOJAVE DESERT

By MRS. GLADYS I. HAMILTON
Mancos, Colorado

I saw a place all queer and vast,
Where trees refused to die;
A land all weird and grimly sad
Like a huge fish bowl gone dry!

PHANTOM MUSIC

By EDNA M. LANNING
Tonopah, Nevada

There is music in the silence
Of these old and time worn hills.
You may hear the lingering echoes
In the valleys and the dells
Where once water lopped and twinkled.

In the sunlight on the plain
Now stand reefs of crumbling limerock,
Long exposed to wind and rain,
Barren, still and lonely,
In bold relief they stand,
Towering, mighty mounds of wonder,
Lords of all that they command.

Listen deeply as you ponder
And you'll hear the silvery strains
Sung to age old sand and sagebrush
On these old and mighty plains.

YAQUITEPEC

(To Marshal and Tanya South and their
little ones.)

By J. N. NUTTER
Long Beach, California

You have returned to Yaquitepec,
To the peace which you could not find
Nor here, nor there, nor anywhere,
For you left your hearts behind.

Nor would we see Yaquitepec
In other hands than thine;
To you it has been a happy home,
To us, a sacred shrine.

Oh, one may find a domicile
Wherever he may roam,
But time and toil and trouble, too,
Must go to build a home.

So built we our Yaquitepec
And made it passing fair,
With a bit of the sandy desert here,
And a touch of the tropics there.

Every foot of its precious soil,
To us, is hallowed ground;
For while we tilled it lovingly
We peace and contentment found.

Soon may we leave our Yaquitepec
And behind us our bridges burn;
For when we go, if it must be so,
We shall no more return.

Still waters we perhaps may find
And plant beside them a garden fair;
But we shall yearn for Yaquitepec,
For our hearts will lie buried there.

GHOST MOUNTAIN GHOSTS

By MAUD CARRICO RUSSELL
Twentynine Palms, California

The ghosts upon Ghost Mountain
(Their happy haunting ground)

Rejoice in their ancient souls
To have the Souths around
Lighting up the breakfast fires

In early dawn's cool hours,
Gardening in favored spots,
Loving bees and flowers,

Molding carefully the clay
For pottery they fire,
Like the "Old Ones" long ago,

As tribal needs require.
The ghosts, no longer lonely,
Must joy in those labors,

And be happy gentle ghosts
With the Souths for neighbors.

Pioneers

By ANNA E. FALLS
Ganado, Arizona

Long they withstood the furious sandstorms'
rage;

Their roots held fast by rocks and weathered
shale,

They cringed not at the warping blast and gale
That topped the tallest pines and swept the sage.

But now they lie, stark, cold, their spirits fled.
Mere ghosts, where once the evening camp-fire

glow
Lit up their verdant crown, white-tipped with
snow,

And cast long shadows cross the canyon bed.
O Pioneers! If you could sing your song

Of desert thirst, of death-stroke at your side,
Of waiting years, of hope deferred too long,

Of faith grown dim, ambition's goal denied,
Would we not thrill as at some Western tale

Of human courage on unbroken trail?

DESERT SONG

By GEORGIA MOORE EBERLING
Pueblo, Colorado

So quiet is the desert and so bright,
So new it looks in this clear, swimming light,
It might have been fresh made for you and me—
Fresh from God's hands for lovers' eyes to see.

The desert flowers are gay beneath our feet,
The desert air with scent of sage is sweet,
The burdens of the world seem far away,
And this might be the first creation day.

This mystery of silence and of glory
Is fitting frame to hold our love's sweet story.
The fevered world is full of war and trouble,
Man's life is brief . . . an evanescent bubble . . .

But here is peace so vast and faith so old
It can not help but make young lovers bold,
So let's give each to each our deathless pledge
And rest a space, here on the desert's edge.

ANTHROPOLOGY

By DUWARD PASSMORE
Lawndale, California

Far up in the arid wastelands
Of the lonely desert country
Hides a sleeping warrior's grave.

No one reckons of its presence,
Knows that there the brave lies sleeping
All alone in solitude.

This tomb will never share his secrets,
Tell his tale of fine ambitions,
Now forgotten by his clan.

Nor will I disturb his slumber
With the tools of my profession.
Rest in peace, forgotten man.

SOULS OF THE DESERT

By MAURICE W. BUCKINGHAM
North Hollywood, California

A thousand feet or more
Have trod upon the aging floor
Where ocean waters stood before,
Where billowed waves recede no more—
And I, with only two,
Whose toes were often hid from view
Beneath the tracks I never knew,
Have also left a future clue.

A thousand souls or more
Have entered through the desert's door;
Immuring deeds, forevermore,
They dwell in sand, forgotten lore—
And I, with only one,
Whose puny acts have just begun,
May leave the soul my life has won
Beneath the desert's tranquil sun.

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Five Pounds of Assorted
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